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ConocoPhillips

Mr. Randolph Bayliss, P. E.
District III & IV Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

March 21, 2017

Re: NMOCD Case No. 3R-432, 2016 Annual Groundwater Monitoring and Remediation Report

Dear Mr. Bayliss:

Enclosed is the 2016 Annual Groundwater Monitoring and Remediation Report for the Charles et al No. 1 site. This report, prepared by GHD Services, Inc., contains the results of groundwater monitoring and remediation activities in 2016.

Please let me know if you have any questions.

Sincerely,

Joseph B. Crouch

J. Brady Crouch

Enc

2016 Excavation and Groundwater Monitoring Report

Charles et al No. 1
San Juan County, New Mexico
API# 30-045-06623
NMOCD# 3R-432

ConocoPhillips Company

GHD | 6121 Indian School Rd NE Suite 200 Albuquerque NM 87110 USA

074935| Report No 8 | March 21, 2017

Table of Contents

Figure Index

Table Index

Appendix Index

1. Introduction

This report presents the results of monitor well removal and replacement, soil excavation and quarterly groundwater sampling events conducted during 2016 by GHD Services, Inc. (GHD) at the Charles et al. No. 1 site (hereafter referred to as the "Site"). The Site is located on Navajo Nation allotted land near Angel Peak in Section 12, Township 27N, Range 9W, of San Juan County, New Mexico. Geographical coordinates for the site are 36°35'10.25" North, 107°44'24.89" West. A Site Vicinity Map and Site Detail Map are included as Figure 1 and 2, respectively.

Prior to commencement of field activities, a wetlands study was conducted by SME Environmental Consultants of Durango, Colorado, to assess potential impacts on designated wetlands aquatic resources. The results of that study are presented in Appendix A.

A workplan detailing planned field activities, including the plugging and abandonment of all site monitor wells and the limited soils excavation, was submitted to the Federal Indian Minerals Office (FIMO), a division of the United States Department of the Interior's Office of Natural Resources Revenue, and the Federal Bureau of Land Management (BLM). Approvals from these agencies was received and a Pre-Construction Notification, required as a condition of the aquatic resources delineation (App. A wetlands study) was issued to the United States Army Corps of Engineers (USACE) and to the Navajo EPA.

1.1 Background

The Charles et al. No. 1 natural gas well was spudded in April 1965 by the Austral Oil Company of Houston, Texas. Operatorship of the well was transferred several times before a subsidiary of Burlington Resources became the operator in August 1992. ConocoPhillips acquired Burlington Resources on March 30, 2006. ConocoPhillips plugged and abandoned the well on June 11, 2010.

A ConocoPhillips employee discovered an area of dead vegetation approximately 100 feet from the Blanco Wash and approximately 1/4 mile from the Charles et al. No. 1 wellhead while investigating a pipeline release on June 23, 2008. ConocoPhillips reported the release to the New Mexico Oil Conservation Division (NMOCD) by phone and email on June 24, 2008 Envirotech, Inc. (Envirotech) advanced several soil borings and installed seven piezometer/monitoring wells using a hand auger between June 25 and June 26, 2008. A solar powered fan apparatus was installed over monitoring well MW 1 on August 14, 2008 to facilitate soil vapor extraction (SVE) remediation of the area. To date, the SVE equipment continues to operate and remains in place over MW 1.

Envirotech conducted quarterly groundwater sampling events beginning June 25, 2008 and recommended discontinuing the sampling of monitoring wells MW 5, MW 6, and MW 7 in March 2009. Tetra Tech, Inc. (Tetra Tech) began monitoring the Charles et al. No. 1 remediation site in March 2010. Site consulting responsibilities were transferred from Tetra Tech to GHD (formerly CR A) on June 15, 2011. The historical timeline for the Site is summarized below and is presented in Table 1.

2. Monitor Well Removal and Replacement

The shallow monitor wells MW-1 through MW-7 were pulled from the ground using a backhoe on June 2 and 3, 2016. The resulting open 2-inch hole was filled with bentonite chips and hydrated to seal the opening and prevent them from becoming a conduit to groundwater should a surface release occur in the future. The wells were installed with a hand auger in 2008 and have not displayed any hydrocarbon concentrations above standards (with the exception of MW-1) in 9 years. The abandoned wells were comprised of 10 feet (ft) of 2-inch diameter PVC, with a bottom 5 ft slotted screen section topped by 5 ft of blank casing. The monitor wells generally had 5 to 6 ft in the ground with the remainder extending above grade.

After the limited Site soil excavation and removal, detailed below in Section 3, replacement monitor well MW1R was installed via hand auger in approximately the same location as MW-1, in the center of the backfilled excavation. MW-1R consists of 1-inch diameter PVC casing with a bottom 5 ft slotted screen section topped by 5 ft of blank casing. The monitor well was installed to an approximate depth of 8 feet below ground surface and was constructed with 10/20 grade sand pack around the screened section and a 3-inch hydrated bentonite plug on top of the sand pack. The well was developed by bailing. Approximately ½ gallon was bailed before the slowly recharging well went dry.

3. Soils Excavation

A limited 10 ft x 10 ft excavation was proposed to address the pocket of hydrocarbon-impacted soils perceived to be impacting groundwater of MW-1. None of the adjacent monitor wells had ever detected hydrocarbons and it was therefore believed that a small pocket of impacted soils was affecting MW-1 groundwater quality.

The pre-excavation underground utility location survey revealed that an unknown Chevron pipeline was located very close to the proposed digging area. The abandoned ConocoPhillips pipeline, from which the original release occurred, was also marked in the field. Both ConocoPhillips and Chevron pipeline personnel were consulted in the field and it was agreed that the pipelines should be “daylighted” to assure safe clearance was maintained. On June 6, 2017, Industrial Ecosystems, Inc. mobilized to the Site and exposed the two pipelines in the area of the proposed excavation by hydroexcavation. The area planned for excavation, centered on MW-1, was between the two identified pipelines (see Figure 2). M & M Trucking, Inc., excavated a volume of approximately10 ft x 12 ft x7 ft deep on June 7, 2016. Approximately 30 cubic yards of sandy silt/clay soils with some petroleum staining/odor were hauled to the Envirotech Landfarm for offsite disposal and treatment. Waste characterization documents and shipment manifests are included in the summary report in Appendix B.

The excavation was backfilled with clean fill material obtained from the Envirotech landfarm. On July 1, 2016, the excavated area was reseeded with a “High Plains Foothills Wet Meadow Mix” prescribed for this area.

4. Groundwater Monitoring Methodology and Analytical Results

4.1 Groundwater Monitoring Summary

Groundwater sampling events were conducted by GHD at the Site on July 1, September 12, and November 28, 2016. Well MW-1R is the only monitor well at the Site and was sampled during these events.

4.2 Groundwater Monitoring Methodology

Prior to collection of groundwater samples, depth to groundwater well was measured in MW-1R using a water level meter (Table 2).

The groundwater sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8260. The purging of at least three casing volumes of groundwater was attempted at MW-1R using a 0.5 inch diameter, polyethylene, disposable bailer prior to sampling but this well typically went dry before this volume was removed. Groundwater quality parameters including pH, temperature, electrical conductivity, dissolved oxygen and redox potential were collected using a multi parameter groundwater quality meter, when possible, and results were recorded and are summarized in Table 4.

4.3 Groundwater Monitoring Results

The Navajo Nation Environmental Protection Agency (NNEPA) has not established groundwater quality standards; however, drinking water quality on Navajo Nation land is mandated in Part II of the Navajo Nation Primary Drinking Water Regulations (NNPDWR). Drinking water quality standards have been set for the protection of human health, domestic water supply, and irrigation use. The 2016 quarterly groundwater sampling events are discussed below:

- Benzene: The NNPDWR drinking water quality standard for benzene is 0.005 milligrams per liter (mg/L). The groundwater sample collected from monitoring well MW-1R during the November 2016 quarterly sampling event contained benzene at concentrations of 0.0026 mg/L, <0.001 and 0.0280 mg/L, respectively.

An historical laboratory analytical summary is available as Table 4. Copies of laboratory analytical reports for the 2016 quarterly groundwater sampling events are included in Appendix C. A hydrocarbon concentration in groundwater map for the 2016 sampling events is included as Figure 3.

5. Conclusions and Recommendations

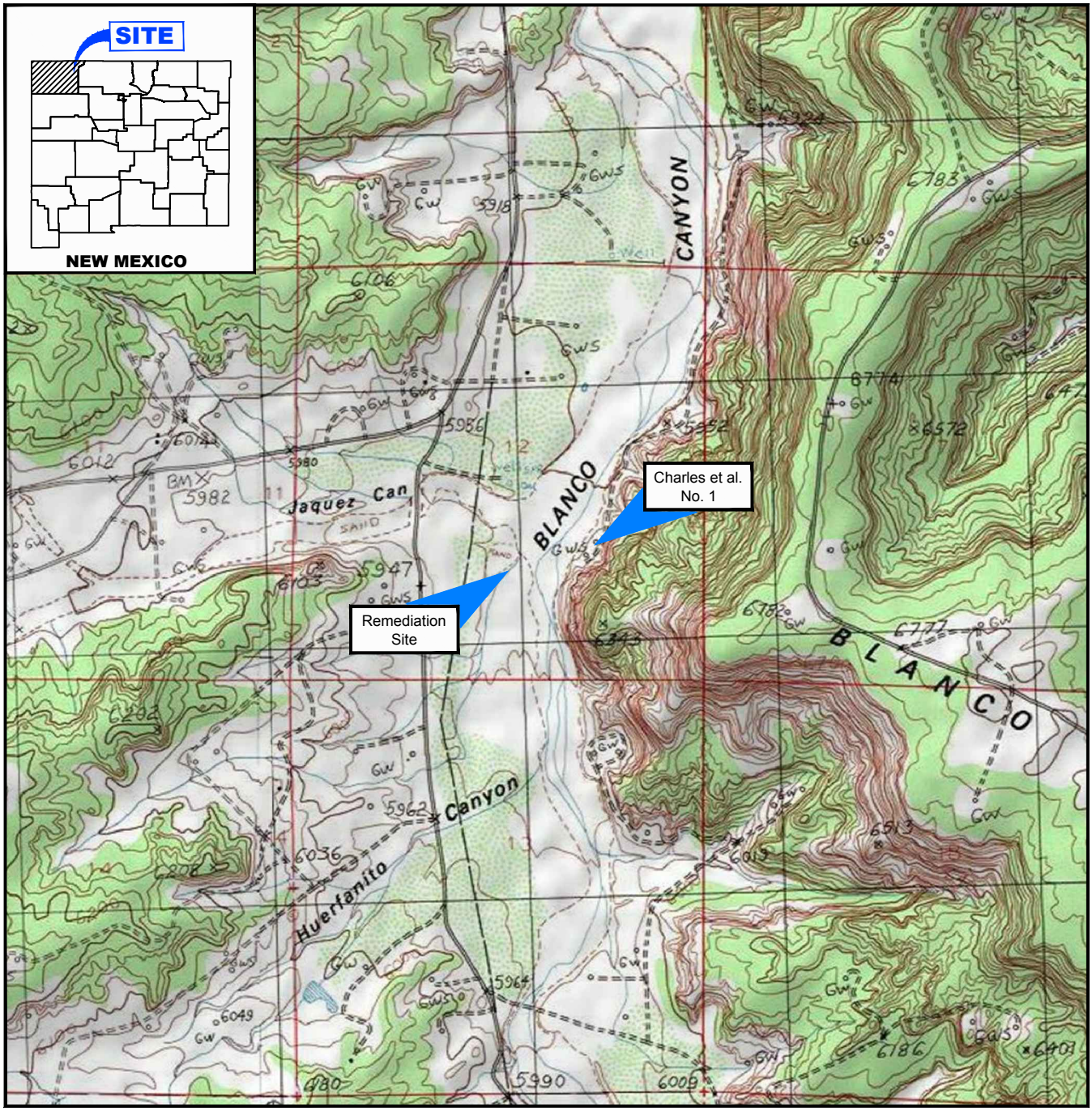
All site monitor wells were plugged and abandoned in June 2016. A limited soils excavation with dimensions 10 ft by 12 ft by 7 ft deep, centered on the former MW-1, was conducted to address benzene concentrations in groundwater at MW-1 believed to be caused by residual soil impacts.

Approximately 30 cubic yards of soil were hauled away for off Site disposal. Once the excavation was backfilled with clean, imported material, replacement well MW 1R was installed to monitor groundwater quality in this area of the Site going forward. Well plugging and abandonment, soils excavation and reinstallation of monitor well MW-1R were completed only after a wetlands study was conducted and a Pre-Construction notification was issued to the USACE and the Navajo EPA. Reseeding of the excavated area was also completed using a native seed mixture.

Groundwater concentrations exceeded the NNPDWR drinking water quality standards for benzene and ethylbenzene in the last quarter of 2016.

GHD recommends the continuation of quarterly groundwater monitoring at the Site. The next scheduled quarterly event is scheduled for March 2017.

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"FRESNO CANYON, NEW MEXICO"

N

0 1000 2000ft

Figure 1

SITE VICINITY MAP
CHARLES et al. No. 1
SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074935-95(007)GN-DL004_TOPO FEB 18/2016

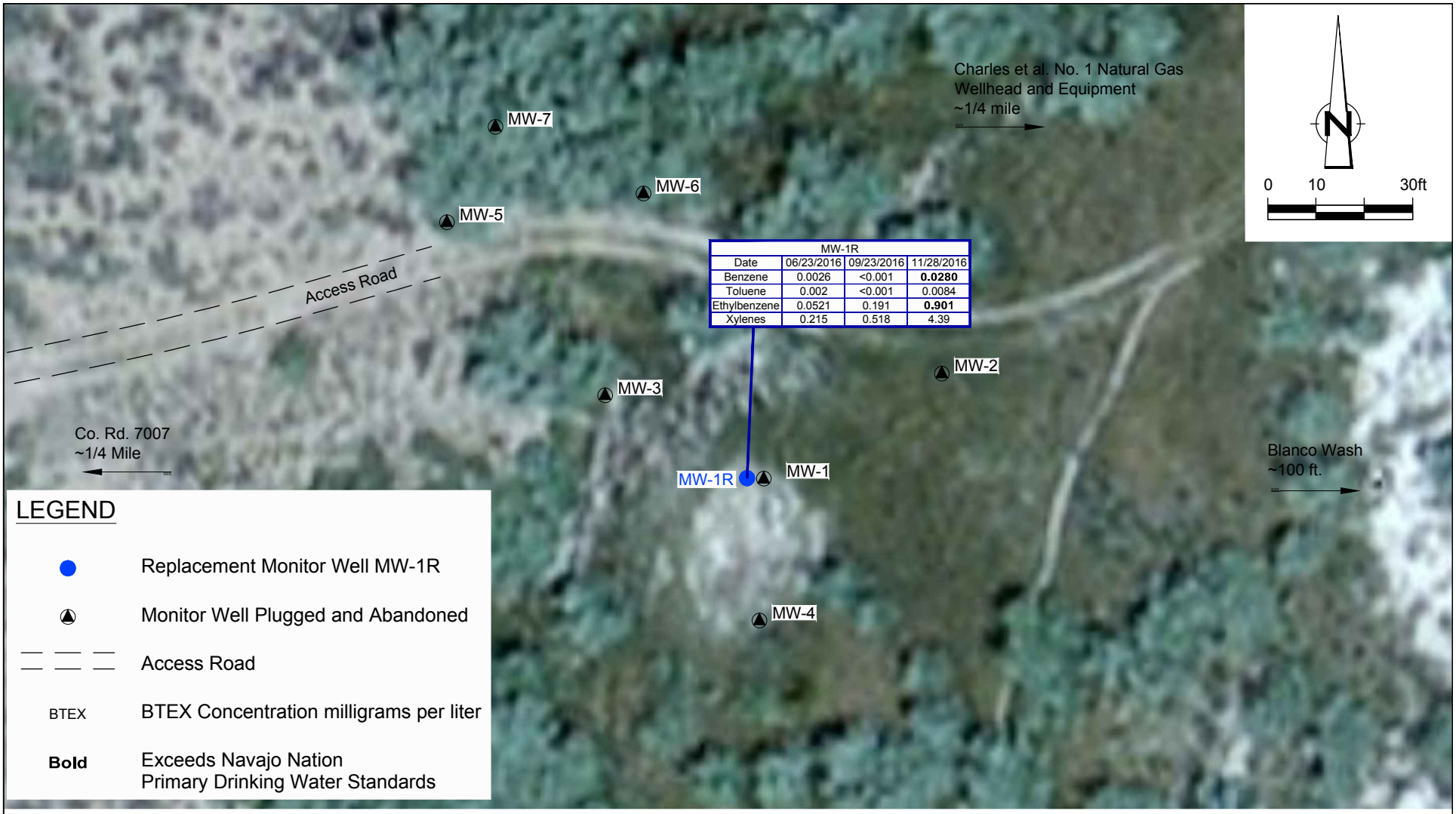
Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 2

MONITORING WELL PLUG,
ABANDONMENT, AND SOIL EXCAVATION MAP
CHARLES et al. No. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074935-95(008)GN-DL001 FEB 1, 2017



Adapted from Tetratech, Inc. figure,
"Site Layout Map"

Figure 3

2016 BTEX CONCENTRATION MAP
CHARLES et al. No. 1
SEC 12, T27N-R9W, SAN JUAN COUNTY, NEW MEXICO
ConocoPhillips Company

GHD

074935-95(008)GN-DL001 FEB 1, 2017

Tables

Table 1

Site Historical Timeline
ConocoPhillips Company
Charles et al. No. 1

Date/Time Period	*Event/Action*	*Description/Comments*
April 12, 1965	Well Spudded	Well spudded by Austral Oil Company Inc.
March 30, 1978	Operator Change	Change in operatorship to the Superior Oil Company.
September 1, 1986	Operator Change	Change in operatorship to Mobil Producing TX and NM Inc.
August 1, 1992	Operator Change	Change in operatorship to Meridian Oil Inc, a subsidiary of Burlington Resources.
August 1, 2001	Well Abandoned	Burlington Resources abandons well due to low production.
May 20, 2003	Well Returns to Production	The Charles et al. No. 1 natural gas well returned to production.
March 31, 2006	Operator Change	ConocoPhillips acquires Burlington Resources.
June 23, 2008	Release Discovered	A release was discovered from the pipeline running from the wellhead to the meter house; upon walking the pipeline, an area of dead vegetation was also discovered approximately 100 feet from Blanco Wash.
June 24, 2008	Release Reported	ConocoPhillips reported the release to the New Mexico Oil Conservation Division (NMOCD) via phone and email.
June 25-26, 2008	Initial Site Assessment	Envirotech, Inc. of Farmington, NM advances several soil borings and installed piezometers using a hand auger to determine the extent of impact (Envirotech, 2009). Envirotech also installed Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7; and obtained water level measurements and samples from all of the wells.
August 14, 2008	Soil Vapor Extraction System Installed	Envirotech, Inc. installed solar-powered Soil Vapor Extraction (SVE) equipment over the existing Monitor Well, MW-1; and obtained water level measurements and samples from all of the wells.
October 2, 2008	Groundwater Monitoring	Envirotech, Inc. completed the third round of groundwater sampling.
January 13, 2009	Groundwater Monitoring	Envirotech, Inc. completed the fourth round of groundwater sampling.
March 23, 2009	Groundwater Monitoring	Envirotech, Inc. completed the fifth round of groundwater sampling and recommended sampling only Monitor Wells MW-1, MW-2, MW-3, and MW-4.
June 29, 2009	Groundwater Monitoring	Envirotech, Inc. completed the sixth round of groundwater sampling and recommended drilling additional monitor wells downgradient of MW-2.
March 30, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling.
June 11, 2010	Well Abandoned	Charles et al. No. 1 is plugged and abandoned by ConocoPhillips.
June 11, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling.
September 21, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. An oil absorbant sock was placed in MW-1.
December 16, 2010	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. The benzene concentration in MW-1 exceeded the Navajo Nation Primary Drinking Water Regulations (NNPDWR) standard. Oil absorbant sock in MW-1 was replaced.
March 18, 2011	Groundwater Monitoring	Tetra Tech, Inc. completed quarterly groundwater sampling. The benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
June 15, 2011	Transfer of Site Consulting Responsibilities	On June 15, 2011, Site consulting responsibilities were transferred from Tetra Tech of Albuquerque, NM to Conestoga-Rovers & Associates (CRA) of Albuquerque, NM.
June 23, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 26, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 12, 2011	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
March 7, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standard. Oil absorbant sock in MW-1 was replaced.
June 4, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene, toluene, and ethylbenzene levels in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 17, 2012	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene, toluene, and ethylbenzene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
January 9, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
March 18, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
June 14, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and Toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 13, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene and Toluene concentrations in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 13, 2013	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
March 21, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 did not exceed the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
June 16, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
September 19, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards. Oil absorbant sock in MW-1 was replaced.
December 17, 2014	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards.
March 19, 2015	Groundwater Monitoring	CRA completed quarterly groundwater sampling. All constituents were below NNPDWR standards.
June 19, 2015	Groundwater Monitoring	CRA completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards.
September 14, 2015	Groundwater Monitoring	GHD (formerly CRA) completed quarterly groundwater sampling. Benzene concentration in MW-1 exceeded the NNPDWR standards.
June 2, 2016	MW Plugging and Abandonment	GHD and contractor MMT plug and abandon all existing site monitor wells (MW-1 thru MW-7).
June 6, 2016	Soil Excavation/MW replacement	GHD and contractor MMT excavate 10 X 12 ft X 7 ft deep excavation (~30cy) centered around MW-1. MW-1 replaced with 1" PVC MW-1R
July 1, 2016	Reseeding	Excavation site reseeded with High Plains Foothills Wet Meadow Mix from Western Native Seed Co.
September 12, 2016	Groundwater Monitoring	Quarterly groundwater sampling: Benzene concentration in MW-1R below NNPDWR standard.
November 28, 2016	Groundwater Monitoring	Quarterly groundwater sampling: Benzene concentration in MW-1R exceeds NNPDWR standard.

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Charles et al. No. 1

Well ID	TOC Elevation* (ft AMSL)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level (ft AMSL)
MW-1	5917.87	6/25/2008	4.71	5913.16
		8/14/2008	5.21	5912.66
	5917.05	10/2/2008	5.13	5911.92
		1/13/2009	4.41	5912.64
		3/23/2009	3.01	5914.04
		6/29/2009	2.12	5914.93
		3/30/2010	2.68	5914.37
		6/11/2010	4.74	5912.31
		9/21/2010	5.52	5911.53
		12/16/2010	3.71	5913.34
		3/18/2011	2.98	5914.07
		6/23/2011	4.99	5912.06
		9/27/2011	4.55	5912.50
		12/12/2011	3.23	5913.82
		3/7/2012	3.67	5913.38
		6/4/2012	4.75	5912.30
		9/17/2012	5.57	5911.48
		1/9/2013	3.87	5913.18
		3/18/2013	3.09	5913.96
		6/14/2013	4.83	5912.22
		9/13/2013	5.42	5911.63
		12/13/2013	3.67	5913.38
		3/21/2014	3.27	5913.78
		6/16/2014	5.13	5911.92
		9/19/2014	5.70	5911.35
		12/17/2014	4.22	5912.83
		3/19/2015	3.36	5913.69
		6/19/2015	4.34	5912.71
		9/14/2015	5.55	5911.50
		6/2/2016	Plugged and Abandoned	
MW-1R	Not Determined	6/23/2016	6.28	--
		9/12/2016	6.49	--
		11/28/2016	5.13	--
MW-2	5917.33	6/25/2008	4.66	5912.67
		8/14/2008	5.35	5911.98
	5916.53	10/2/2008	5.12	5911.41
		1/13/2009	3.15	5913.38
		3/23/2009	2.65	5913.88
		6/29/2009	4.20	5912.33
		3/30/2010	2.57	5913.96
		6/11/2010	4.63	5911.90
		9/21/2010	5.53	5911.00
		12/16/2010	3.53	5913.00
		3/18/2011	2.70	5913.83
		6/23/2011	4.80	5911.73
		9/27/2011	4.30	5912.23
		12/12/2011	3.13	5914.20
		3/7/2012	2.58	5913.95
		6/4/2012	4.51	5912.02
		9/17/2012	5.56	5910.97
		1/9/2013	3.75	5912.78
		3/18/2013	3.02	5913.51
		6/14/2013	4.69	5911.84
		9/13/2013	5.09	5911.44
		12/13/2013	3.55	5912.98
		3/21/2014	3.15	5913.38
		6/16/2014	4.98	5911.55
		9/19/2014	5.49	5911.04
		12/17/2014	4.11	5912.42
		3/19/2015	3.30	5913.23
		6/19/2015	4.24	5912.29
		9/14/2015	5.57	5910.96
		6/2/2016	Plugged and Abandoned	

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Charles et al. No. 1

Well ID	TOC Elevation* (ft AMSL)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level (ft AMSL)
MW-3	5920.57	6/25/2008	7.16	5913.41
		8/14/2008	8.86	5911.71
	5919.8	10/2/2008	7.63	5912.17
		1/13/2009	5.56	5914.24
		3/23/2009	5.56	5914.24
		6/29/2009	1.10	5918.70
		3/30/2010	5.38	5914.42
		6/11/2010	7.44	5912.36
		9/21/2010	8.22	5911.58
		12/16/2010	6.06	5913.74
		3/18/2011	5.42	5914.38
		6/23/2011	7.68	5912.89
		9/27/2011	7.13	5912.67
		12/12/2011	5.78	5914.79
		3/7/2012	5.33	5914.47
		6/4/2012	7.27	5912.53
		9/17/2012	8.15	5911.65
		1/9/2013	6.37	5913.43
		3/18/2013	5.68	5914.12
		6/14/2013	7.36	5912.44
		9/13/2013	7.72	5912.08
		12/13/2013	6.20	5913.60
		3/21/2014	5.89	5913.91
		6/16/2014	7.71	5912.09
		9/19/2014	8.13	5911.67
		12/17/2014	6.71	5913.09
		3/19/2015	5.98	5913.82
		6/19/2015	7.01	5912.79
		9/14/2015	8.21	5911.59
		6/2/2016	Plugged and Abandoned	
MW-4	5920.48	6/25/2008	4.27	5916.21
		8/14/2008	7.89	5912.59
	5919.69	10/2/2008	7.73	5911.96
		1/13/2009	5.94	5913.75
		3/23/2009	5.64	5914.05
		6/29/2009	6.84	5912.85
		3/30/2010	5.40	5914.29
		6/11/2010	7.23	5912.46
		9/21/2010	8.17	5911.52
		12/16/2010	6.24	5913.45
		3/18/2011	5.50	5914.19
		6/23/2011	7.50	5912.19
		9/27/2011	6.98	5912.71
		12/12/2011	5.94	5914.54
		3/7/2012	5.36	5914.33
		6/4/2012	7.18	5912.51
		9/17/2012	8.18	5911.51
		1/9/2013	6.53	5913.16
		3/18/2013	5.81	5913.88
		6/14/2013	7.40	5912.29
		9/13/2013	7.77	5911.92
		12/13/2013	6.37	5913.32
		3/21/2014	6.03	5913.66
		6/16/2014	7.63	5912.06
		9/19/2014	8.09	5911.60
		12/17/2014	6.87	5912.82
		3/19/2015	6.05	5913.64
		6/19/2015	6.92	5912.77
		9/14/2015	DRY (1)	NA
		6/2/2016	Plugged and Abandoned	

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Charles et al. No. 1

Well ID	TOC Elevation* (ft AMSL)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level (ft AMSL)
MW-5	5923.63	6/26/2008	8.23	5915.40
		8/14/2008	8.68	5914.95
	5921.55	10/2/2008	8.70	5912.85
		1/13/2009	6.96	5914.59
		3/23/2009	6.58	5914.97
		6/29/2009	4.10	5917.45
		3/30/2010	NM	NM
		6/11/2010	8.20	5913.35
		9/21/2010	9.25	5912.30
		12/16/2010	7.40	5914.15
		3/18/2011	6.74	5914.81
		6/23/2011	NM	NM
		9/26/2011	8.25	5913.30
		12/12/2011	7.12	5916.51
		3/7/2012	6.65	5914.90
		6/4/2012	8.17	5913.38
		9/17/2012	9.30	5912.25
		1/9/2013	7.76	5913.79
		3/18/2013	7.05	5914.50
		6/14/2013	8.49	5913.06
		9/13/2013	8.97	5912.58
		12/13/2013	7.55	5914.00
		3/21/2014	7.17	5914.38
		6/16/2014	8.72	5912.83
		9/19/2014	9.35	5912.20
		12/17/2014	8.07	5913.48
		3/19/2015	7.33	5914.22
		6/19/2015	8.24	5913.31
		9/14/2015	9.48	5912.07
		6/2/2016	Plugged and Abandoned	
MW-6	5920.68	6/26/2008	6.75	5913.93
		8/14/2008	6.97	5913.71
	5918.64	10/2/2008	6.83	5911.81
		1/13/2009	4.89	5913.75
		3/23/2009	4.12	5914.52
		6/29/2009	1.80	5916.84
		3/30/2010	NM	NM
		6/11/2010	6.63	5912.01
		9/21/2010	7.41	5911.23
		12/16/2010	5.12	5913.52
		3/15/2011	4.49	5914.15
		6/23/2011	6.80	5911.84
		9/26/2011	6.33	5912.31
		12/12/2011	4.84	5915.84
		3/7/2012	4.46	5914.18
		6/4/2012	6.45	5912.19
		9/17/2012	7.37	5911.27
		1/9/2013	5.46	5913.18
		3/18/2013	4.80	5913.84
		6/14/2013	6.60	5912.04
		9/13/2013	6.90	5911.74
		12/13/2013	5.32	5913.32
		3/21/2014	5.03	5913.61
		6/16/2014	6.85	5911.79
		9/19/2014	7.34	5911.30
		12/17/2014	5.79	5912.82
		3/19/2015	5.22	5913.42
		6/19/2015	6.21	5912.43
		9/14/2015	DRY (1)	NA
		6/2/2016	Plugged and Abandoned	

Table 2

Monitoring Well Specifications and Groundwater Elevations
ConocoPhillips Company
Charles et al. No. 1

Well ID	*TOC Elevation* (ft AMSL)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft AMSL)*
MW-7	5920.75	6/26/2008	6.32	5914.43
		8/14/2008	7.17	5913.58
	5918.74	10/2/2008	6.42	5912.32
		1/13/2009	NM	NM
		3/23/2009	4.67	5914.07
		6/29/2009	1.56	5917.18
		3/30/2010	NM	NM
		6/11/2010	NM	NM
		9/21/2010	NM	NM
		12/16/2010	4.91	5913.83
		3/18/2011	DRY (1)	NA
		6/23/2011	6.55	5912.19
		9/26/2011	6.14	5912.60
		12/12/2011	DRY (1)	NA
		3/7/2012	DRY (1)	NA
		6/4/2012	6.08	5912.66
		9/17/2012	7.11	5911.63
		1/9/2013	5.28	5913.46
		3/18/2013	4.54	5914.20
		6/14/2013	6.31	5912.43
		9/13/2013	6.66	5912.08
		12/13/2013	5.35	5913.39
		3/21/2014	4.70	5914.04
		6/16/2014	6.59	5912.15
		9/19/2014	7.14	5911.60
		12/17/2014	5.59	5913.15
		3/19/2015	4.98	5913.76
		6/19/2015	6.10	5912.64
		9/14/2015	7.34	5911.40
		6/3/2016	Plugged and Abandoned	

Notes:

1. (1) Indication of well being dry is inconsistent with perviously recorded levels. Will continue to monitor depth to groundwater and total depth to determine a potential cause.
2. ft = feet
3. AMSL = Above mean sea level
4. NA = Not available
5. NM = Not measured
6. Note: Measurements between 6/25/2008 and 6/29/2009 obtained by Envirotech, Inc.

Table 3

Field Parameters Summary
ConocoPhillips Company
Charles et al. No. 1

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1R	6/23/2016	18.40	6.43		4	2.23	-68.3	0.25

Notes:
TDS = total dissolved solids
DO = dissolved oxygen
ORP = oxidation-reduction potential

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Charles et al. No. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)
NNPDWR Standards				***0.005***	***1***	***0.7***	***10***
MW-1	MW-1	6/25/2008	(orig)	**1.85**	0.486	**0.971**	0.379
	MW-1	9/25/2008	(orig)	**0.575**	0.66	0.293	1.547
	MW-1	1/13/2009	(orig)	**0.494**	0.581	0.474	3.572
	MW-1	3/23/2009	(orig)	**0.21**	0.311	0.378	1.418
	MW-1	6/29/2009	(orig)	**0.839**	0.107	0.674	3.404
	MW-1	3/30/2010	(orig)	**0.48**	0.11	0.25	1.573
	MW-1	6/11/2010	(orig)	**3.2**	0.45	0.69	4.51
	MW-1	9/21/2010	(orig)	**2.3**	**1.1**	0.25	4.84
	MW-1	12/16/2010	(orig)	**0.18**	0.2	0.25	1.79
	MW-1	3/18/2011	(orig)	**0.15**	0.14	0.16	1.083
	GW-74935-062311-PG04	6/23/2011	(orig)	**3.20**	0.933	**0.972**	5.80
	GW-74935-062311-PG05	6/23/2011	(Duplicate)	**3.38**	**1.45**	**1.06**	6.76
	GW-074935-092611-CM-008	9/26/2011	(orig)	**1.56**	**2.61**	0.624	6.59
	GW-074935-092611-CM-009	9/26/2011	(Duplicate)	**1.57**	**3.02**	**0.756**	7.26
	GW-074935-121211-CB-MW-1	12/12/2011	(orig)	**0.232**	0.947	0.5	3.94
	GW-074935-121211-CB-DUP	12/12/2011	(Duplicate)	**0.244**	0.994	0.58	4.65
	GW-074935-3712-CB-MW-1	3/7/2012	(orig)	**0.0637**	0.366	0.293	2.23
	GW-074935-3712-CB-DUP	3/7/2012	(Duplicate)	**0.0693**	0.416	0.333	2.63
	GW-074935-060412-CB-MW-1	6/4/2012	(orig)	**0.956**	**2.38**	**0.919**	6.71
	GW-074935-060412-CB-DUP	6/4/2012	(Duplicate)	**0.934**	**2.26**	**0.966**	6.36
	GW-074935-091712-CM-MW-1	9/17/2012	(orig)	**0.941**	**3.51**	**0.785**	5.56
	GW-074935-091712-CM-DUP	9/17/2012	(Duplicate)	**0.984**	**3.04**	**0.852**	5.87
	GW-074935-010913-CM-MW-1	1/9/2013	(orig)	**0.125**	**1.14**	0.334	2.44
	GW-074935-010913-CM-DUP	1/9/2013	(Duplicate)	**0.142**	**1.52**	0.438	3.09
	GW-074935-031813-CM-MW-1	3/18/2013	(orig)	**0.012**	0.195	0.0871	0.581
	GW-074935-031813-CM-DUP	3/18/2013	(Duplicate)	**0.0114**	0.188	0.0891	0.575
	GW-074935-061413-JK-MW1	6/14/2013	(orig)	**0.174**	**1.41**	0.668	3.26
	GW-074935-061413-JK-DUP	6/14/2013	(Duplicate)	**0.189**	**2.02**	**0.742**	4.17
	GW-074935-091313-CM-MW-1	9/13/2013	(orig)	**0.0414**	**3.240**	0.123	4.340
	GW-074935-091313-CM-DUP	9/13/2013	(Duplicate)	**0.0372**	**3.300**	0.126	4.430
	GW-074935-121313-CM-MW-1	12/13/2013	(orig)	**0.0053**	0.188	0.122	0.681
	GW-074935-121313-CM-DUP	12/13/2013	(Duplicate)	**0.0071**	0.258	0.148	0.843
	GW-074935-032114-CK-MW-1	3/21/2014	(orig)	< 0.001	0.0348	0.0591	0.247
	GW-074935-032114-CK-DUP	3/21/2014	(Duplicate)	< 0.001	0.0385	0.0651	0.260
	GW-074935-061614-CK-MW-1	6/16/2014	(orig)	**0.133**	**1.940**	**0.994**	4.50
	GW-074935-061614-CK-DUP	6/16/2014	(Duplicate)	**0.134**	**1.920**	**0.921**	4.50
	GW-074935-091914-CB-MW-1	9/19/2014	(orig)	**0.159**	**2.34**	0.630	3.38
	GW-074935-121714-JW-MW-1	12/17/2014	(orig)	**0.0138**	0.422	0.248	1.48
	GW-074935-121714-JW-DUP	12/17/2014	(Duplicate)	**0.0137**	0.440	0.251	1.52
	GW-074935-031915-CM-MW-1	3/19/2015	(orig)	< 0.005	0.227	0.174	1.030
	GW-074935-061915-CB-MW-1	6/19/2015	(orig)	**0.025**	0.326	0.496	2.440
	GW-074935-061915-CB-DUP	6/19/2015	(Duplicate)	**0.0241**	0.306	0.472	2.310
	GW-074935-091415-CK-MW-1	9/14/2015	(orig)	**0.0339**	0.0257	0.242	0.504
	Plugged and Abandoned June 2016						
MW-1R	GW-074935-062316-SP-MW-1R	6/23/2016	(orig)	0.0026	0.002	0.0521	0.215
	GW-074935-091216-CM-MW-1R	9/23/2016	(orig)	< 0.001	< 0.001	0.191	0.518
	GW-074935-11282016-CN-MW-1R	11/28/2016	(orig)	**0.0280**	0.0084	**0.901**	4.39

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Charles et al. No. 1

Well ID	Sample ID	Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)
	NNPDWR Standards			***0.005***	***1***	***0.7***	***10***
MW-2	MW-2	6/25/2008	(orig)	0.0042	0.0046	0.0016	0.0011
	MW-2	9/25/2008	(orig)	**0.0195**	0.0258	0.0051	0.1008
	MW-2	1/13/2009	(orig)	0.0021	0.002	0.0022	0.0281
	MW-2	3/23/2009	(orig)	0.0014	0.0004	0.0006	0.0073
	MW-2	6/29/2009	(orig)	0.0015	< 0.0002	0.0002	0.0004
	MW-2	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-2	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG02	6/23/2011	(orig)	0.0006	< 0.001	< 0.001	< 0.003
	GW-074935-092611-JP-010	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-2	12/12/2011	(orig)	0.00034	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-2	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-2	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-2	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-2	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-2	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-2	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-2	9/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121313-CM-MW-2	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-032114-CK-MW-2	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-2	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-2	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-2	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	Plugged and Abandoned June 2016						
MW-3	MW-3	6/25/2008	(orig)	ND	ND	ND	ND
	MW-3	9/25/2008	(orig)	ND	0.0023	0.0009	0.0121
	MW-3	1/13/2009	(orig)	ND	ND	ND	ND
	MW-3	3/23/2009	(orig)	< 0.0002	0.0002	0.0002	0.0014
	MW-3	6/29/2009	(orig)	< 0.0002	0.0017	0.0007	0.0082
	MW-3	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-3	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG01	6/23/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-092611-CM-006	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-3	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-3	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-3	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-3	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-3	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-3	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-3	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-3	9/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121313-CM-MW-3	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-032114-CK-MW-3	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-3	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-3	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-DUP	9/19/2014	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-3	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	Plugged and Abandoned June 2016						

Table 4

Groundwater Analytical Results Summary
ConocoPhillips Company
Charles et al. No. 1

Well ID	*Sample ID*	*Date*	*Sample Type*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (total) (mg/L)*
NNPDWR Standards				***0.005***	***1***	***0.7***	***10***
MW-4	MW-4	6/25/2008	(orig)	0.0038	0.0199	0.0014	0.007
	MW-4	9/25/2008	(orig)	ND	ND	ND	ND
	MW-4	1/13/2009	(orig)	ND	ND	ND	ND
	MW-4	3/23/2009	(orig)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
	MW-4	6/29/2009	(orig)	< 0.0002	< 0.0002	0.0002	0.0029
	MW-4	3/30/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	9/21/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	12/16/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	MW-4	3/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001
	GW-74935-062311-PG03	6/23/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-092611-SP-007	9/26/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121211-CB-MW-4	12/12/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-3712-CB-MW-4	3/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-060412-CB-MW-4	6/4/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-010913-CM-MW-4	1/9/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091712-CM-MW-4	9/17/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-031813-CM-MW-4	3/18/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061413-JK-MW-4	6/14/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091313-CM-MW-4	9/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121313-CM-MW-4	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-032114-CK-MW-4	3/21/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-061614-CK-MW-4	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-091914-CB-MW-4	9/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	GW-074935-121714-JW-MW-4	12/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003
	Plugged and Abandoned June 2016						
MW-5	MW-5	6/26/2008	(orig)	ND	ND	ND	ND
	MW-5	9/25/2008	(orig)	ND	ND	ND	ND
	MW-5	1/13/2009	(orig)	ND	ND	ND	ND
	MW-5	3/23/2009	(orig)	ND	ND	ND	ND
	Plugged and Abandoned June 2016						
MW-6	MW-6	6/26/2008	(orig)	ND	ND	ND	ND
	MW-6	9/25/2008	(orig)	ND	ND	ND	ND
	MW-6	1/13/2009	(orig)	ND	ND	ND	ND
	MW-6	3/23/2009	(orig)	ND	ND	ND	ND
	Plugged and Abandoned June 2016						
MW-7	MW-7	6/26/2008	(orig)	ND	ND	ND	ND
	MW-7	9/25/2008	(orig)	ND	ND	ND	ND
	MW-7	3/23/2009	(orig)	ND	ND	ND	ND
	Plugged and Abandoned June 2016						

Notes:

1. MW = monitoring well
2. ND = Not Detected
3. NNPDWR = Navajo Nation Primary Drinking Water Regulations
4. mg/L = milligrams per liter (parts per million)
5. < 1.0 = Below laboratory detection limit of 1.0 mg/L
6. **Bold** = concentrations that exceed the NNEPA limits
7. Analytes sampled between 6/25/2008 and 6/29/2009 obtained by Envirotech, Inc.

Appendices

Appendix A
Wetland Study Report

ENVIRONMENTAL CONSULTANTS

February 25, 2016

Mr. Chris Wrbas
U.S. Army Corps of Engineers
Durango Regulatory Office
1970 East 3rd Avenue, Suite 109
Durango, Colorado 81301-5025

RE: Pre-Construction Notification
U.S. Army Corps of Engineers – Nationwide Permit Number 38
Charles Et Al #1 Remediation Project
San Juan County, New Mexico
SME #150049, DA # Not Yet Assigned

Dear Mr. Wrbas:

SME Environmental, Inc. (SME) was retained by ConocoPhillips Company (COPC) to procure Clean Water Act Section 404 authorizations for the referenced project. This letter serves as a request for verification from the U.S. Army Corps of Engineers (USACE) that the proposed project meets the terms and conditions outlined in Nationwide Permit (NWP) 38 for cleanup of hazardous and toxic wastes. The proposed use of NWP 38 requires that the project proponent provide a pre-construction notification (PCN) to the USACE. The following information will allow you to process this request. Referenced figures are provided within Attachment 1 and Attachment 2. The project is located on Navajo-allotted land; therefore, a copy of this PCN is being provided to Region 9 of the U.S. Environmental Protection Agency (USEPA).

GENERAL PROJECT DESCRIPTION

The proposed project consists of removal and replacement of potentially contaminated sediments within a wetland area adjacent to the Blanco Wash. A natural gas pipeline leak in 2008 resulted in a product release within the subject wetland. To determine the location and extent of potentially contaminated sediments in the area, COPC contractors installed seven groundwater monitoring wells in the vicinity of the release. No product has ever been detected at six of the wells, and these are proposed to be removed and plugged. One well did detect groundwater impacts in the vicinity of the release, an approximately 10-foot by 10-foot area (100 square feet), will be excavated to a depth of approximately six feet. Excavated soils will be hauled to a permitted landfarm, and replaced with locally harvested, clean fill material. Upon completion of the remedial actions, a temporary monitoring well will be installed at the excavation area to assess the soil removal's effectiveness at removing the contaminant source area.

NATIONWIDE PERMIT COMPLIANCE

NWP 38 activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. As the project is being completed to satisfy the requirements of the Federal Indian Minerals Office (FIMO), the activities are authorized under NWP 38.

In addition to meeting the terms and general conditions of NWP 38, the proposed project meets all of the applicable *2012 Regional Conditions in New Mexico* issued by the USACE Albuquerque District. Specifically, the project does not involve work in Special Status Waters, springs, or fens, and will not impede aquatic life movement. Further, the proposed project will not result in greater than ½ acre of permanent fill within Waters of the U.S. (WOUS).

401 Water Quality Certification (General Condition 25)

General Condition #25 of the NWP states that individual CWA Section 401 WQC must be obtained or waived. Since the project involves work within WOUS and is located on Navajo allotted lands, the USEPA is responsible for issuing the CWA Section 401 WQC. On March 30, 2012, the USEPA issued a conditional CWA Section 401 WQC for the 2012 NWPs (including NWP 38) for use on tribal lands in Region 9 (which includes Navajo-allotted lands in New Mexico). The conditions of the Region 9 WQC are attached (Attachment 3). A brief discussion of how the project complies with each condition of the CWA Section 401 WQC is provided below:

01. Notification

A copy of this PCN has been submitted to USEPA Region 9 to satisfy this General Condition of the CWA Section 401 WQC.

02. Waivers

COPC is not requesting a waiver of any NWP thresholds or General Conditions.

03. Avoidance, Minimization, and Mitigation

These topics are addressed below under item 3 of the *Contents of Pre-Construction Notification* section of this document.

04. Prohibition on the Multiple Use of One NWP for a Single Project

COPC is not proposing to use NWP 38 multiple times to complete this project.

05. Use of Appropriate Fill Material

Only clean fill comprised of locally harvested fill dirt will be used to replace the excavated material. Plugged monitoring wells will be filled with inert bentonite.

06. Dewatered Conditions

The work is located in a seasonally saturated wetland area. COPC does not anticipate needing to dewater the project area at this time. If de-watering is necessary to complete the project, pumped water will not be discharged into the wetland or adjacent WOUS.

07. Fills within Floodplains

The project is located within a Federal Emergency Management Agency (FEMA) regulated floodplain; however, the project only involves the replacement of removed material, meaning no loss in flood capacity will occur as a result of the project.

08. Best Management Practices

Best Management Practices (BMPs) are discussed below under item 3 of the *Contents of Pre-Construction Notification* section of this document. Additionally, a copy of this application, which includes all CWA Section 401 WQC conditions as Attachment 3, will be provided to all contractors and will be kept on-site during construction to satisfy this condition of the CWA Section 401 WQC.

09. Transportation Projects

Not applicable.

10. Inspections

COPC will facilitate any site inspections deemed necessary by USEPA, if requested.

11. Buffers

Not applicable.

12. Protected Lands

Not applicable.

13. Impaired Waterbodies

Not applicable.

Contents of Pre-Construction Notification (General Condition 31)

(1) Name, address and telephone numbers of the prospective permittee;

All required information is provided on the USACE, Albuquerque District's PCN form (Attachment 4).

(2) Location of the proposed project;

The project is located within the San Juan Basin of northwestern New Mexico, approximately 14 miles southeast of Bloomfield, New Mexico in San Juan County. Specifically, the proposed project is located approximately 10 miles south of U.S. Highway 64. The project is located

adjacent to the west bank of the Blanco Wash immediately south of its confluence with Jaquez Canyon. A road map is provided as Figure B-1 of Attachment 1.

The general location and approximate boundary of the proposed project site is depicted on the Fresno Canyon, NM. 7.5' USGS quadrangle map (Attachment 1, Figure B-2); the proposed project site lies within Section 12 of Township 27 North in Range 9 West of the New Mexico Principal Meridian (NMPM). The centroid location of the subject site is (approximately) at latitude 36.58616 N and longitude 107.740226 W (NAD 83).

Waterbody (if known, otherwise enter "an unnamed tributary to"): The project is located within a wetland adjacent to Blanco Wash.

Tributary to what known, downstream waterbody: Cañon Largo.

Zoning Designation (no codes or abbreviations): Navajo-allotted land.

(3) Description of the proposed project; project's purpose; existing conditions; identification of direct and indirect adverse environmental effects the project would cause.

Project Purpose. The purpose of the proposed project is to remediate potentially contaminated soils.

Site Description/Existing Conditions. As described above, the proposed project area is located adjacent to the western bank of the Blanco Wash downstream of its confluence with Jaquez Canyon. Photographs of existing site conditions are provided in Appendix C of Attachment 1.

Project Description. COPC intends to plug and abandon the six groundwater monitoring wells that did not detect contaminated groundwater. Five of these wells are located in wetlands; one is located in an upland area. This will be accomplished using a small skidsteer and the well casings will be pulled out with a chain. The remaining open boreholes will be filled with Holeplug (bentonite chips) that will be hydrated to provide a seal. COPC anticipates no more than 1 square foot of fill associated with each removed well (i.e., discharge into less than five square feet of wetlands total). Wetland vegetation in an approximately 0.4 acre area adjacent to the wells may be disturbed during vehicular access, but root systems should not be affected, and disturbed areas will be re-vegetated using a native wetland seed mix unless a different mix is requested by FIMO, the Navajo Nation, or the Bureau of Land Management (BLM). Invasive Russian olive trees and shrubs in the project area will be hand-cleared as needed for access to the wells.

A limited, approximately 10-foot by 10-foot by six-foot deep, excavation will be conducted centered on the well that detected groundwater impacts (referred to as MW-1). The excavation will occur using a backhoe. Soils will be hauled to a New Mexico Oil Conservation Division-permitted commercial landfarm facility. The remaining excavation will be backfilled with clean, locally harvested soils. The imported soils and disturbed soils adjacent to the excavation will be re-vegetated through the application of an approved seed mix.

Finally, a temporary monitoring well will be installed where MW-1 was located to assess the soil removal's effectiveness at removing the contaminant source area. COPC anticipates conducting the project in late-March or April 2016. In total, the project will result in approximately 0.4 acre of temporary impacts associated with access and equipment operation and 105 square feet of permanent discharge into wetlands. Drawings of the proposed actions are included in Attachment 2.

Avoidance and Minimization. To avoid and minimize impacts to jurisdictional WOUS to the maximum extent practicable, construction activities will be limited to the immediate vicinity of the proposed project. Activities within WOUS will be limited to those required to accomplish the project goals, while preventing the need for future construction activities within WOUS at this location. Where possible, COCP contractors will use existing cleared areas to reduce the footprint of the work within the designated project area.

Management of Water Flows. The Blanco Wash is an intermittent stream near the project location, and potential floodwaters from Blanco Wash could reach the project area. To ensure no disruption in water flows, work will not be conducted during overbank flood events.

Best Management Practices (BMPs). Standard construction practices will be implemented on-site (as applicable) to further minimize impacts to jurisdictional WOUS. BMPs will be used to prevent erosion and sediment runoff prior to, during and after construction (as necessary and applicable) to minimize impacts to important natural resources. Following completion of construction, areas of disturbance will be re-vegetated/ stabilized, as appropriate.

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site.

SME conducted a delineation of the project site on December 7, 2015. An aquatic resources delineation report is provided as Attachment 1.

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied.

The proposed project will not result in the loss of greater than 1/10 acre of wetlands and BMPs will be used to prevent erosion and sediment runoff prior to, during and after construction.

(6) Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act.

The following information is provided in accordance with General Condition 18 (Endangered Species). Informal consultation was initiated with the U.S. Fish and Wildlife Service (USFWS) on February 17, 2016 for the proposed project by generating a list of threatened, endangered, proposed, and candidate species which could be affected by the proposed project. Utilizing the USFWS's on-line Information, Planning, and Conservation decision support system, nine (9) species were identified for the proposed project (Consultation Code 02ENNM00-2016-SLI-0329) and are identified in Table 2 below. This list of species meets the requirements of Section 7(c) of the Endangered Species Act of 1973, as amended.

Table 2 below identifies the potential for these eleven (11) species to occur in the proposed project area. No threatened, endangered, proposed, or candidate species were detected during the December 2015 field investigation of the proposed project area. No designated critical habitat is within or adjacent to the proposed project. A "no effect" determination is warranted for all eleven (11) of these species for the specified project area due to a lack of suitable habitat for each respective species.

Table 2. Threatened and Endangered Species listed by the USFWS for the Charles Et Al #1 Remediation Project.

Plants
Knowlton's cactus *(Pediocactus knowltonii)* (FE*)
Habitat: Alluvial deposits that form rolling, gravelly hills in piñon-juniper and sagebrush communities (6,200-6,400 feet) with cobble covered substrates. Distribution restricted to 25 acre locality along Los Piños River in New Mexico across the state line from La Boca, Colorado (USFWS 2010).
Potential to occur in the proposed project area: NONE The project area is 26 miles away from the known range for Knowlton's cactus, and does not contain cobble covered substrates; further this species was not observed during the onsite field investigation of the project area in December 2015.
Determination: NO EFFECT
Mancos milkvetch *(Astragalus humillimus)* (FE*)
Habitat: Large sheets of exfoliating whitish-tan colored sandstone rimrock outcrops of the Point Lookout and Cliffhouse members of the Mesa Verde sandstone geologic unit. Aspect is various. Located on flat or gently sloping ground. Elevation average 5,650 ft. Found on Sandstone ledges and mesa tops in cracks or shallow bowl-like depressions (tinajas) that accumulate sandy soils and rainfall. Common Associates include: *Achnatherum hymenoides*, *Gutierrezia sarothrae*, *Yucca angustissima*, *Artemisia tridentata*, *Fraxinus anomola*, *Ipomopsis roseata*, *Cercocarpus intricatus*, and *Brickellia microphylla var. scabra*. Species distribution closely follows a narrow band of Mesozoic sandstone along a 10-mile section of the Hogback geologic formation (USFWS 1989).
Potential to occur in the proposed project area: NONE The project is approximately 40 miles from the Hogback formation, and Point Lookout and Cliffhouse Sandstone does not occur in the proposed project area. Mancos milkvetch was not observed within the project area during the onsite field investigation in December 2015.
Determination: NO EFFECT.
Mesa Verde cactus *(Sclerocactus mesae-verde)* (FT*)
Habitat: High alkaline, gypsiferous clay soils in upper Cretaceous Mancos and Fruitland Shale geologic layers. Aspect is various. Elevation ranges from 4,600 to 6,560 feet. Sparsely vegetated Great Basin Desert Scrub (Saltbush Series) and Desert Grassland Ecotone communities on low rolling hills, particularly hilltops and benches. Common Associates – *Atriplex corrugata*, *A. cuneata*, *A.confertifolia*, *A. gardneri*, *Artemisia spinescens*, *Achnatherum hymenoides*, *Pleuraphis jamesii*, *Phlox longifolia*, *Bromus inermis* (USFWS 2010).
Potential to occur in the proposed project area: NONE Proposed action area geology does not consist of Mancos or Fruitland Shale Formations and the project area is outside of known distribution for this species. No Mesa Verde cactus occurrences were detected during the onsite field investigation in December 2015.

Determination: NO EFFECT
Birds
Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (FE*)
Habitat: Dense riparian thickets adjacent to or underlain by saturated soils, standing water, streams, and/or pools from sea level to approximately 8,500 feet in elevation. Nest sites typically have a dense canopy and dense foliage from ground level to approximately 13 feet above ground surface, may be interspersed with small openings of open water and/or marsh. Tree/shrub patches covering a minimum of 0.25 acres with at least some portion attaining 9.1 meters (30 feet) of width and 2 meters (6 feet) in height are considered suitable habitat for the Southwestern Willow Flycatcher (SWFL) (USFWS 2013).
Potential to occur in the proposed project area: NONE The proposed project area, which is comprised primarily of sparse Russian olives (*Elaeagnus angustifolia*) and herbaceous wetland vegetation does not contain areas of dense, tall, woody hydrophytic vegetation, especially willows (*Salix spp.*) that meet the USFWS requirements defined for potential habitat for this species and no suitable nesting habitat occurs within the project area for SWFL. The nearest designated critical habitat is located approximately 43 miles to the north on the Pine River in Colorado. The closest potential habitat identified by the Bureau of Land Management is approximately 10 miles northwest of the project area along the San Juan River. An area approximately 0.1 mile north of the project area may contain marginal SWFL habitat in the form of dense Russian olives; however, these areas will not be impacted and construction is proposed to take place prior to nesting season.
Determination: NO EFFECT
Yellow-billed Cuckoo (*Coccyzus americanus*) (FT*)
Habitat: Large tracts of deciduous broad-leaved woodland with dense, scrubby undergrowth along watercourses. In willow-cottonwood habitats, marginal conditions have been described as an intact stand of a minimum of 50 acres (20 hectares [ha]) and a minimum width of 330 - 660 feet (100-200 meters); suitable habitat as a stand of 100-200 acres (40-80 ha) and a width of 660 – 1,960 feet (200-600 meters), and optimal habitat as a stand of more than 200 acres (80 ha) and a width greater than 1,960 feet (600 meters). Habitat less than 38 acres in extent (15 ha) and less than 330 feet (100 meters) wide is considered unsuitable for the Western Yellow-billed Cuckoo (WYBC) (Laymon and Halterman 1989, Johnson et al. 2007).
Potential to occur in the proposed project area: NONE The project area does support the required habitat of a riparian corridor with multilayered canopy of 38 acres.
Determination: NO EFFECT
Sprague's Pipit (*Anthus spragueii*) (FC*)
Habitat: The Sprague's pipit is a ground nester that breeds and winters on open grasslands. It feeds mostly on insects and spiders and some seeds. The Sprague's pipit is closely tied with native prairie habitat and breeds in the north-central United States in Minnesota, Montana, North Dakota and South Dakota as well as south-central Canada. Sporadically winters in New Mexico southern desert grasslands. Closest documented wintering habitat is the Animas River Valley 21 miles northwest of the project (New Mexico Partners in Flight 2007).
Potential to occur in the proposed project area: NONE The project area does not support native prairie habitat that would support habitat utilized by the Sprague's Pipit during the winter migration.
Determination: NO EFFECT
Fish
Colorado pikeminnow (*Ptychocheilus lucius*) (FE*)

Habitat: Large rivers with strong currents, deep pools, and quiet backwaters. Current populations are known to exist in the Colorado, Green, Yampa, Gunnison, and San Juan Rivers.
Potential to occur in the proposed project area: NONE The project area is located approximately 15 river miles upstream of the San Juan River and does not support a perennial waterway.
Determination: NO EFFECT There will be no new depletions or consumptive use of water from the San Juan River basin as a result of the proposed action.
Razorback sucker (*Xyrauchen texanus*) (FE*)
Habitat: Large rivers with strong currents, deep pools, and quiet backwaters. Currently found in the Colorado, Green, Yampa, Gunnison, and San Juan Rivers. San Juan River fish are stocked fish or recruits of stocked fish.
Potential to occur in the proposed project area: NONE The project area is located approximately 15 river miles upstream of the San Juan River and does not support a perennial waterway.
Determination: NO EFFECT There will be no new depletions or consumptive use of water from the San Juan River basin as a result of the proposed action.
Zuni bluehead sucker (*Catostomus discobolus yarrowi*) (FPE*)
Habitat: Stream reaches with clean, perennial waterflowing over hard substrate (material on the stream bottom), such as bedrock. Silt-laden habitat, such as beaver ponds, is not suitable habitat for the species. Pools were often edged by emergent aquatic vascular plants and riparian vegetation (mainly willows (*Salix* spp.)). The Zuni bluehead sucker has been found in the Zuni River watershed in New Mexico. Recent genetic testing of bluehead suckers in the Little Colorado River watershed in eastern Arizona and from streams in or near Canyon DeChelly in northeastern Arizona suggests that members of the Zuni bluehead sucker subspecies are located there as well.
Potential to occur in the proposed project area: NONE The proposed project area is not located within the Zuni or Little Colorado River watersheds.
Determination: NO EFFECT
Mammals
Canada Lynx (*Lynx canadensis*) (FT*)
Habitat: Moist coniferous forests which experience cold, snowy winters and provide a prey base of snowshoe hare (*Lepus americanus*). In the Southern Rockies, primary habitat is found in the subalpine and upper montane forests between 8,000 -12,000 ft (2,248 - 3,657 m). Preferred secondary habitat attributes include uneven-aged stands, boulder outcrops, and downed logs. Habitat in New Mexico that may support lynx is limited to the San Juan and Sangre de Cristo Mountains.
Potential to occur in the proposed project area: NONE The project area does not exhibit suitable subalpine and upper montane forests for the Canada lynx and is below the lower limits of elevation for this species.
Determination: NO EFFECT
New Mexico Meadow Jumping Mouse (*Xyrauchen texanus*) (FE*)
Habitat: Emergent herbaceous wetlands and scrub-shrub wetlands adjacent to perennial flowing water are the required habitats for the New Mexico meadow jumping mouse (NMMJM). Suitable riparian/wetland habitat contains dense herbaceous vegetation with an average height of 24 inches (61 centimeters) composed primarily of sedges and forbs below an elevation of 8,000 ft

[2,438 meters (m)] (USFWS 2014). When hibernating and maternal nesting, NMMJM leave the foraging habitat for adjacent locations with dry soils with woody plants.
Potential to occur in the proposed project area: NONE The project area is located in a wetland area approximately 300 feet from the Blanco Wash, an intermittent stream that does not flow most of the year. Further, the project area and vicinity is actively grazed, precluding herbaceous vegetation from attaining suitable height for NMMJM habitat. The nearest proposed critical habitat unit, along Sambrito Creek is located approximately 30 miles north of the project area.
Determination: NO EFFECT

**FE=Federal Endangered; FT=Federal Threatened; FPE=Proposed Federal Endangered; FPT=Proposed Federal Threatened; FC=Federal Candidate.*

To demonstrate compliance with General Condition 19 - Migratory Birds and Bald and Golden Eagles, a map depicting Bald and Golden Eagle habitat in the vicinity of the project site is provided as Figure B-3. The nearest documented Bald Eagle habitat is located approximately 18 miles northeast of the project area along the Frances Creek arm of the Navajo Reservoir. No Bald Eagles were observed within the action or project area during the onsite field investigation during December 2015. Due to a lack of a perennial water source, it is unlikely the project area provides habitat for Bald Eagles.

The nearest documented Golden Eagle nest is located approximately 2 miles to the northeast along the eastern wall of Blanco Canyon. No impacts to Blanco Canyon or adjacent Golden Eagle habitat are proposed. No Golden Eagle nests are mapped within the project area and no Golden Eagles were observed foraging or perching within the project area during the onsite field investigation during December 2015. To the best of our knowledge, the project will not result in a "take" of Bald or Golden eagles.

(7) Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

The project is located in a small area of previous disturbance associated with installation of the since-abandoned natural gas pipeline, and an abandoned roadway that was previously used for pipeline maintenance/access, as well as equipment access for installation of the existing monitoring wells. As such, the project is not anticipated to affect cultural resources.

SUMMARY

COPC proposes to conduct remediation of potentially contaminated soils within a wetland area located along the western bank of the Blanco Wash associated with a pipeline leak that occurred in 2008. These activities will result in the excavation and replacement of potentially contaminated soils within a 100-square foot area. COPC intends to install a new ground water monitoring well within the remediated area to confirm that impacts to groundwater have been eliminated. Additionally, COPC proposes to remove and plug previously installed monitoring wells that did not detect contaminated groundwater. Five of these wells are located in wetlands and each will result in approximately one square foot of fill placement in wetlands in the form of bentonite chips. Equipment usage and access will result in up to 0.4 acre of temporary disturbance to the wetland to carry out the above described activities. The project meets the

general conditions of NWP 38, all NWP regional conditions, and the conditions for USEPA's 401 WQC. Therefore, on behalf of our client, COPC, SME respectfully requests written authorization for the above described activities pursuant to NWP 38. Please contact us at (970) 259-9595 if you have any questions or require additional information.

Sincerely,

SME ENVIRONMENTAL, INC.

Tim Funk, PWS, CE
Environmental Scientist

Encls.

cc: Mr. Keith Coffman, COPC
Ms. Gwen Frost, COPC
Mr. Jeff Walker, GHD, Inc.

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USFWS. 1989. Mancos Milkvetch (*Astragalus humillimus*) Recovery Plan. Albuquerque, NM.

ATTACHMENT 1
AQUATIC RESOURCES DELINEATION REPORT

Aquatic Resources Delineation Report

Charles et al No. 1

San Juan County, New Mexico

Prepared for:

ConocoPhillips
600 North Dairy Ashford
2WL 11050
Houston, TX 77079

Prepared by:

SME
ENVIRONMENTAL CONSULTANTS
679 East 2nd Avenue
Unit E2
Durango, Colorado 81301
Author: Tim Funk, Environmental Scientist

January 2016

EXECUTIVE SUMMARY

Aquatic resources in the survey area were identified by SME Environmental Inc. (SME) on December 7, 2015 using the methodology defined in the Routine Determination procedure set forth in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and *the Regional Supplement: Arid West Region (Version 2.0).* Wetland boundaries were defined based on presence of hydrophytic vegetation, hydric soils, and hydrologic indicators that under normal conditions would indicate wetland conditions. Where wetland conditions did not occur, SME surveyed for evidence of an Ordinary High Water Mark (OHWM) in accordance with the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008).

The Charles et al No. 1 survey area is 0.50 acre in size. Based on the site investigation, approximately 0.40 acre of aquatic resources exist in the survey area consisting of a palustrine emergent (PEM) - palustrine scrub-shrub (PSS) mixed wetland. Although, the site has a past history of disturbance, conditions at the site were considered normal.

This report was produced in support of a request by ConocoPhillips Company for a Preliminary Jurisdictional Determination from the U.S. Army Corps of Engineers (USACE).

TABLE OF CONTENTS

TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

CR	County Road
HUC	Hydrologic Unit Code
NRCS	Natural Resources Conservation Service
NAD	North American Datum
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
PEM	palustrine emergent
PSS	palustrine scrub-shrub
ROW	right-of-way
SME	SME Environmental, Inc.
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

Project Name: Charles et al No. 1

USACE File #: N/A

Applicant:
ConocoPhillips Company (COPC)
600 North Dairy Ashford
2WL 11050
Houston, TX 77079
Phone: (832) 486-2226
Contact: Keith Coffman, L48 HSER
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Phone: (970) 259-9595
Fax: (970) 259-0050
Contact: Mr. Tim Funk, Environmental Scientist
Email: tfunk@sme-env.com

Property Owner: Navajo allotment

Survey Area Description: 0.50 acre area, which includes potential remediation site.

Purpose: The purpose of this report is to identify and describe aquatic resources. Specifically, this report facilitates efforts to avoid and minimize impacts to aquatic resources, as well as to document aquatic resource boundaries for the purpose of a Preliminary Jurisdictional Determination.

2.0 PROJECT LOCATION

Municipality: N/A; **County:** San Juan County; **State:** New Mexico; **Street Address:** N/A.

Section, Township, Range: Section 12, Township 27 North, Range 9 West, New Mexico Principal Meridian.

Lat/Long Centroid Location: latitude 36.58616 and longitude -107.740226 (NAD 83).

USGS Quad Name(s): Fesno Canyon, NM.

Access and Directions: Access is provided via San Juan County Road (CR) 7007. To get to the survey area, take U.S. Highway 64 east from Bloomfield, NM for 10.5 miles and turn right onto CR 4450. Proceed on CR 4450 for 4.5 miles, and turn left onto CR 4990 (Sullivan Road). In 2.7 miles turn right onto CR 7007. Proceed south on CR 7007 for 5.8 miles and the site is on the left. A road map is provided as Figure B1 and topographic map provided as Figure B2.

3.0 DELINEATION METHODS

Wetlands and other Waters of the U.S. (WOUS) in the survey area were identified on December 7, 2015 using the methodology defined in the Routine Determination procedure set forth in the *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual* (USACE 1987), the *Regional*

Supplement to the USACE Wetland Delineation Manual: Arid West Region (USACE 2010), *Regulatory Guidance Letter No. 05-05. Guidance on Ordinary High Water Mark Identification* (USACE 2005), and *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008). Wetland boundaries were defined based on presence of hydrophytic vegetation, hydric soils, and hydrologic indicators that under normal conditions would indicate wetland conditions.

Prior to conducting the field survey, SME conducted a desktop study of available publications covering the survey area including U.S. Geological Survey (USGS) 7.5' topographic quadrangles, U.S. Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) data, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soils data, and *ESRI World Layer maps* for aerial imagery. The boundaries of aquatic resources within the survey area were flagged in the field and survey-located using Trimble Geo XT 2008 GPS unit (sub-meter accuracy) and are depicted on Figure A1.

Photo point locations labeled as PP1, PP2, etc. on Figure A1 correspond to the photos provided in Appendix C. Wetland Determination Data forms for the Arid West Region are included with this report as Appendix E. Soil boring locations have been labeled as T1B1 (Transect 1, Boring 1) and T1B2 (Transect 1, Boring 2), etc., on Figure A1.

4.0 EXISTING CONDITIONS

4.1 Landscape Setting

Size of Survey Area: 0.50 acre, all of which was field verified.

Watershed Name and Size (HUC 8): Blanco Canyon, Hydrologic Unit Code (HUC) 14080103, 1,690 square miles.

Elevation Range of Site: Approximately 5,940 feet above mean sea level (msl) (Figure B2).

Geographic Setting: The survey area is located along the west bank of the Blanco Wash, immediately south of its confluence with Jaquez Canyon. The survey area has an eastern aspect and drains east towards the Blanco Wash. The survey area is located approximately four miles northeast of Huerfanito Peak, a regional landmark.

Geology: The underlying geology of the survey area consists of the Nacimiento Formation and recent alluvium (Manley 1987).

Land Use: The survey area is located in a region primarily used for oil and gas development. A natural gas pipeline bisects the survey area; however, the pipeline is no longer in use. A product release occurred within the survey area in 2008. As a result, COPC installed seven (7) groundwater monitoring wells within the survey area.

Precipitation: Average annual precipitation in Bloomfield, NM is 9.3 inches/year (The Weather Channel 2015). The average monthly precipitation for Bloomfield in November and December is 0.8 and 0.5 inches, respectively. In the 30 days preceding SME's December 7, 2015 site visit,

the area had received 0.34 inches of precipitation, indicating below average rainfall preceding the field survey.

Existing Field Conditions: The field delineation was conducted during the dormant season, although most grasses observed retained their seedheads, and were identifiable. Overnight low temperatures preceding the field survey were approximately 17° Fahrenheit and the ground was partially frozen; however SME was able to dig at select locations both within and outside delineated boundaries of aquatic resources. Despite the site's disturbance history, site topography and hydrology appeared natural, and normal conditions existed.

4.2 Aquatic Resources

The survey area includes a portion of a palustrine emergent (PEM) - palustrine scrub-shrub (PSS) mixed wetland complex located adjacent to the Blanco Wash. The portion of the wetland within the survey area has been designated Area A. Please note that the wetland extends beyond the limits of the survey area; however, only the portion of the wetland within the survey area was delineated. Table 1 below lists the acreage of the wetland areas classified in accordance with the Cowardin Classification System for wetlands and deepwater habitats (Cowardin et al. 1979). The wetland boundaries are depicted on Figure A1. Table 2 provides a breakdown of aquatic resources evaluated for a Preliminary Jurisdictional Determination.

Table 1. Cowardin Classification, Acreage, and Linear Footage of Aquatic Resources within the Survey Area.

Waters of the U.S.	Square Feet	Acres	Linear Feet
Palustrine Emergent (PEM) – Palustrine Scrub-Shrub Wetland (PSS) Mix	17,360	0.40	N/A
TOTAL	**17,360**	**0.40**	**N/A**

Table 2. Characteristics of Aquatic Resources within the Survey Area.

Name	Flow Frequency	Adjacent to	Proximity/ Adjacent to	Rationale
Wetland Areas A	Seasonally Saturated	Blanco Wash	Directly Abutting	Met the three parameters for wetland determination (i.e., vegetation, soils, and hydrology).

The western boundary of Wetland Area A was delineated based on a break in topography and changes in vegetation type. Specifically, areas above the break in slope were vegetated with an upland sagebrush (*Artemisia tridentata*) community, and areas below the break in slope were vegetated with Russian olive (*Elaeagnus angustifolia*) and Arctic rush (*Juncus arcticus*). The northern, southern, and eastern boundaries of the wetland are located beyond the extent of the survey area, and were not surveyed.

4.3 Vegetation

As indicated above, the wetland observed within the survey area was vegetated primarily with Russian olive and Arctic rush. Appendix D provides a list of plant species observed during the field investigation. Wetland Determination Data forms for the Arid West Region are included with this report as Appendix E, and include detailed information about the vegetation observed at each data point location.

4.4 Soils

Soil data for the survey area was obtained from the USDA NRCS. A soil map is included as Figure B3. The survey area is located within two soil map units; descriptions for these map units were derived from the USDA NRCS Soil Reports and provided below:

Map Unit: *BT—Blancot-Notal association, gently sloping*

Component: *Blancot (55%)*

The Blancot component makes up 55 percent of the map unit. Slopes are 0 to 5 percent. This component is on fan remnants, uplands. The parent material consists of fan alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 0 percent. This component is in the R035XB001NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component*: Notal (25%)*

The Notal component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces, valleys. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XB005NM Salt Flats ecological site. Nonirrigated land capability classification is 7c. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. The soil has a slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 5 within 30 inches of the soil surface.

Map Unit: *RA—Riverwash*

Component: *Riverwash (clayey) (35%)*

The Riverwash, clayey is a miscellaneous area.

Component*: Riverwash (sandy) (35%)*

The Riverwash, sandy is a miscellaneous area.

***Component**: Riverwash (gravelly) (35%)*

The Riverwash, gravelly is a miscellaneous area.

As indicated above, neither of the major soil components that comprise the Blacot-Notal Association map unit are considered hydric. However, Riverwash is considered a hydric soil (NRCS 2014). Soil borings revealed primarily clayey soils within the wetland. The primary hydric soil indicator observed at the soil boring locations within the wetland areas was redoximorphic features (i.e., mottles) located within a dark soil matrix. Upland soils were sandy and lighter in color. Data from specific soil borings is presented on the data sheets in Appendix E.

4.5 Hydrology

Groundwater associated with the adjacent Blanco Wash is likely the primary source of hydrology, although stormwater runoff and snowmelt may contribute. Due to dry weather, surface hydrology was not observed; however, the presence of oxidized rhizospheres along living roots indicated seasonal wetland hydrology. See the data forms in Appendix E for more detailed hydrology information at each of the data point locations denoted on Figure A1.

4.6 Limitations

Field indicators can change with variations in hydrology and other factors. This report assesses the potential for wetlands at the site at the time of our review and does not address conditions at a given time in the future. We make no other warranties, either expressed or implied, and our report is not a recommendation to buy, sell or develop the property. This report does not constitute a Jurisdictional Determination of Waters of the United States since such determinations must be verified by the USACE or the NRCS (as applicable), and are subject to review by the U.S. Environmental Protection Agency (USEPA).

5.0 REFERENCES – General and Cited

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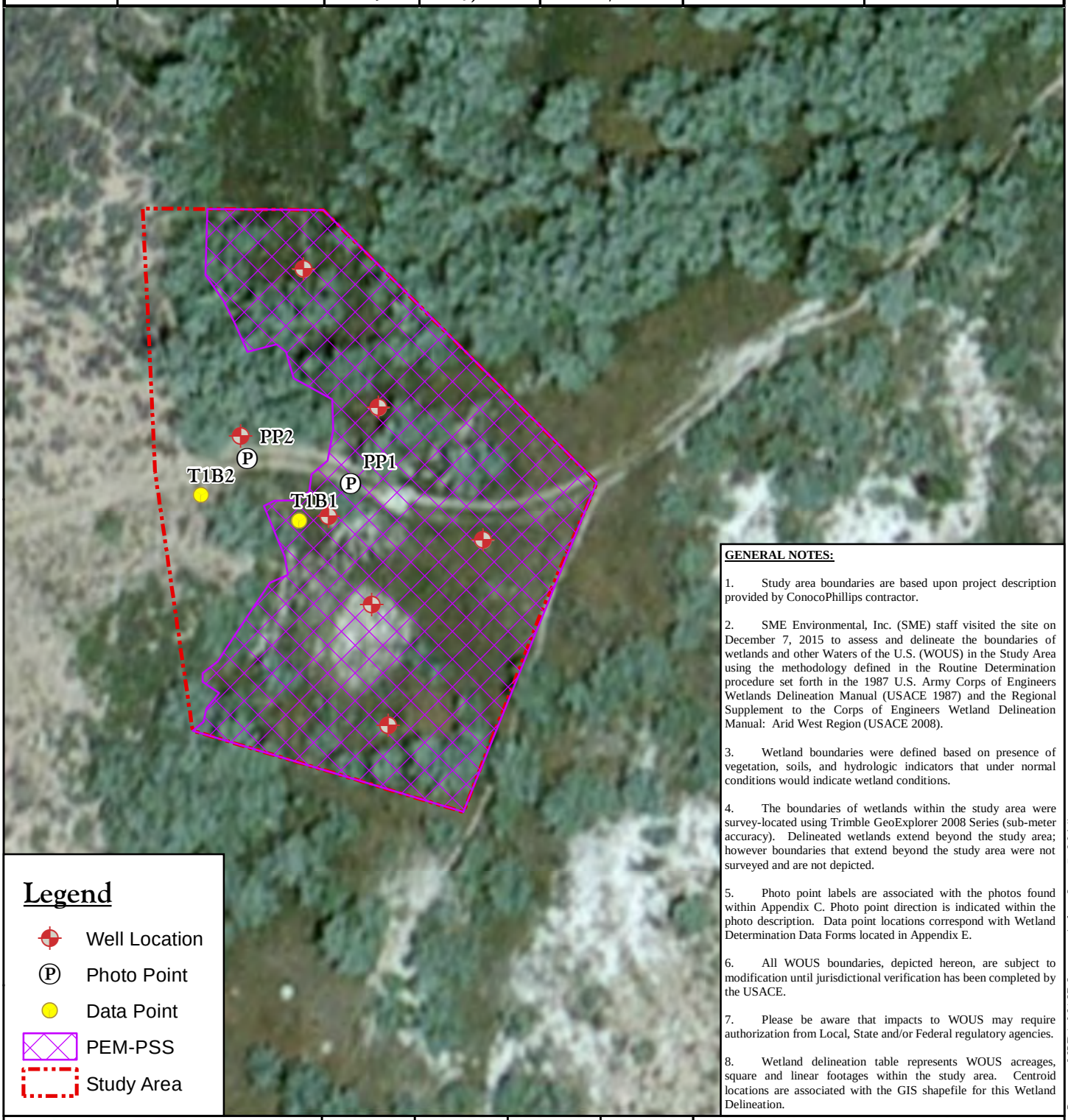
S:\Projects\150049 Charles et al Wells\WD\Charles_Report_2016 Minimum Standards.docx

APPENDIX A
Aquatic Resource Delineation Map

Wetland/WOUS Definition Table

Area Name	Type	Acres	Square Feet	Linear Feet	Longitude	Latitude
Area A	PEM-PSS Mix	0.40	17,360	N/A	-107.740226	36.586160
Total		0.40	17,360	N/A		



Legend

- Well Location
- Photo Point
- Data Point
- PEM-PSS
- Study Area

GENERAL NOTES:

1. Study area boundaries are based upon project description provided by ConocoPhillips contractor.

2. SME Environmental, Inc. (SME) staff visited the site on December 7, 2015 to assess and delineate the boundaries of wetlands and other Waters of the U.S. (WOUS) in the Study Area using the methodology defined in the Routine Determination procedure set forth in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008).

3. Wetland boundaries were defined based on presence of vegetation, soils, and hydrologic indicators that under normal conditions would indicate wetland conditions.

4. The boundaries of wetlands within the study area were survey-located using Trimble GeoExplorer 2008 Series (sub-meter accuracy). Delineated wetlands extend beyond the study area; however boundaries that extend beyond the study area were not surveyed and are not depicted.

5. Photo point labels are associated with the photos found within Appendix C. Photo point direction is indicated within the photo description. Data point locations correspond with Wetland Determination Data Forms located in Appendix E.

6. All WOUS boundaries, depicted hereon, are subject to modification until jurisdictional verification has been completed by the USACE.

7. Please be aware that impacts to WOUS may require authorization from Local, State and/or Federal regulatory agencies.

8. Wetland delineation table represents WOUS acreages, square and linear footages within the study area. Centroid locations are associated with the GIS shapefile for this Wetland Delineation.

Sources: USDA NAIP Imagery (taken June 7, 2014)

SME
ENVIRONMENTAL CONSULTANTS
679 East 2nd Ave. Unit E2, Durango, Colorado 81301
www.sme-env.com (970) 259-9595

Drawn by:	Rvwd. by:	Del. by:	Project.
TF	KZ	TF	SME#
Date:	Rvsn. date:	Scale:	150049
12/4/15	NA	1:600	

N

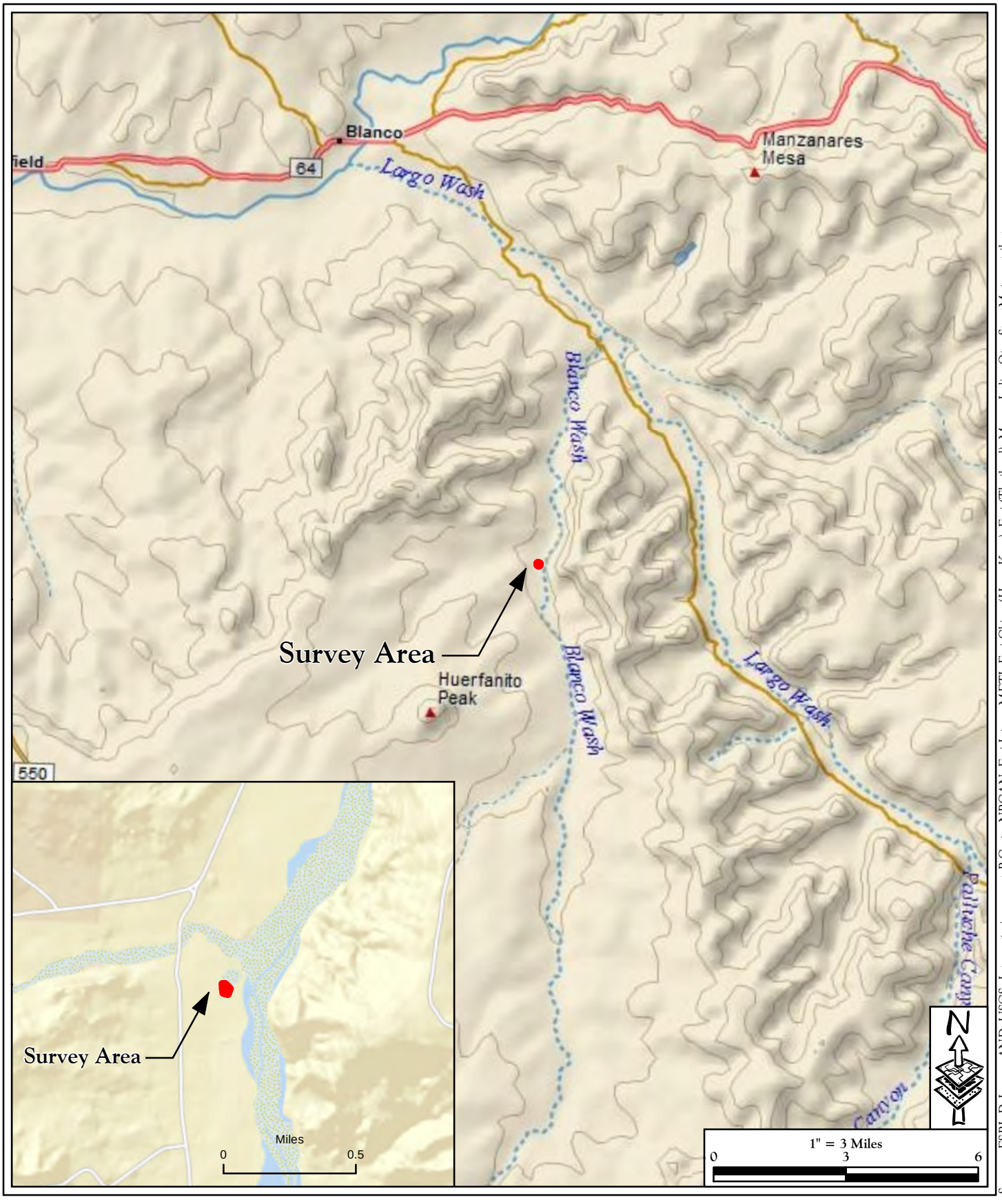
0 25 50

Feet

FIGURE A-1
AQUATIC RESOURCES DELINEATION
AERIAL MAP

CHARLES ET AL NO. 1
AQUATIC RESOURCES
DELINEATION REPORT

APPENDIX B
Supporting Maps



Sources: ESRI, DeLorme, AND, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, OpenStreetMap contributors.

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ROAD/VICINITY MAP

CHARLES ET AL #1
AQUATIC RESOURCES
DELINEATION

FIGURE B-1

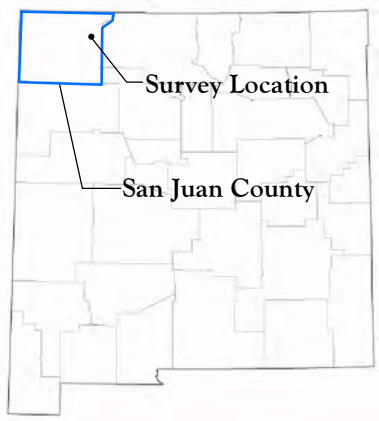
Drawn by:	Reviewed by:	Date:	Scale:
TF	KZ	12/23/2015	1 in=1 miles

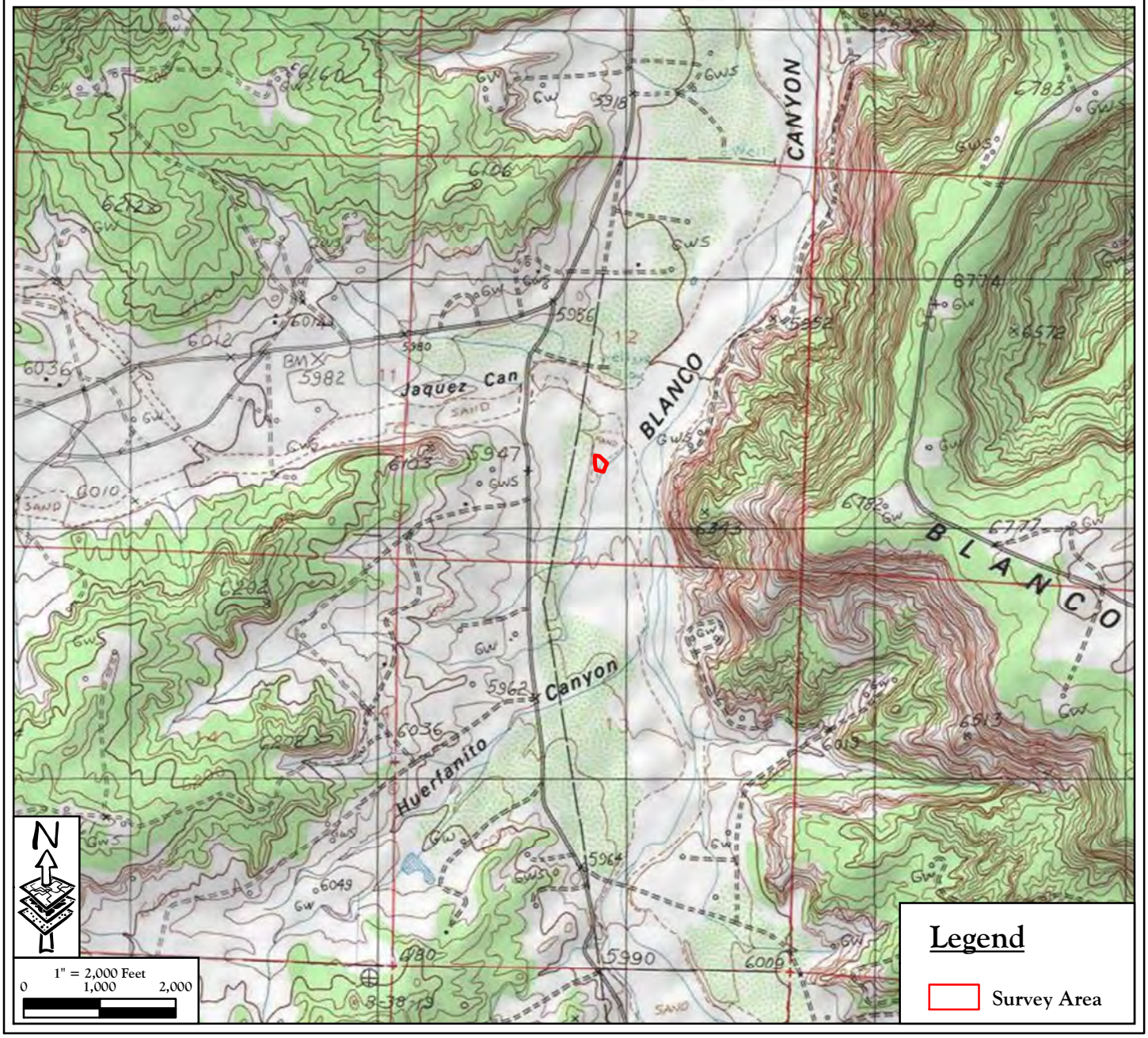
SME Project No.: 150049

Document Path: S:\Projects\150049 Charles et al Wells\GIS\Fig_1_Road_Map.mxd

PROJECT LOCATION:
Township 27 North, Range 9 West, Section 12
New Mexico Principal Meridian,
San Juan County, New Mexico.

CENTROID LOCATION:
Latitude: 36.58616° N
Longitude: 107.740226° W





Sources: ESRI, Copyright 2014 National Geographic Society, i-cubed, USGS Huerfanito Peak and Fresno Canyon 7.5-minute Topographic Quadrangles, 1:24,000, Colorado.

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SURVEY AREA LOCATION MAP

CHARLES ET AL #1
AQUATIC RESOURCES
DELINEATION

FIGURE B-2

Drawn by:	Reviewed by:	Date:	Scale:
TF	KZ	12/23/2015	1 in=2,000 feet

SME Project No.: 150049

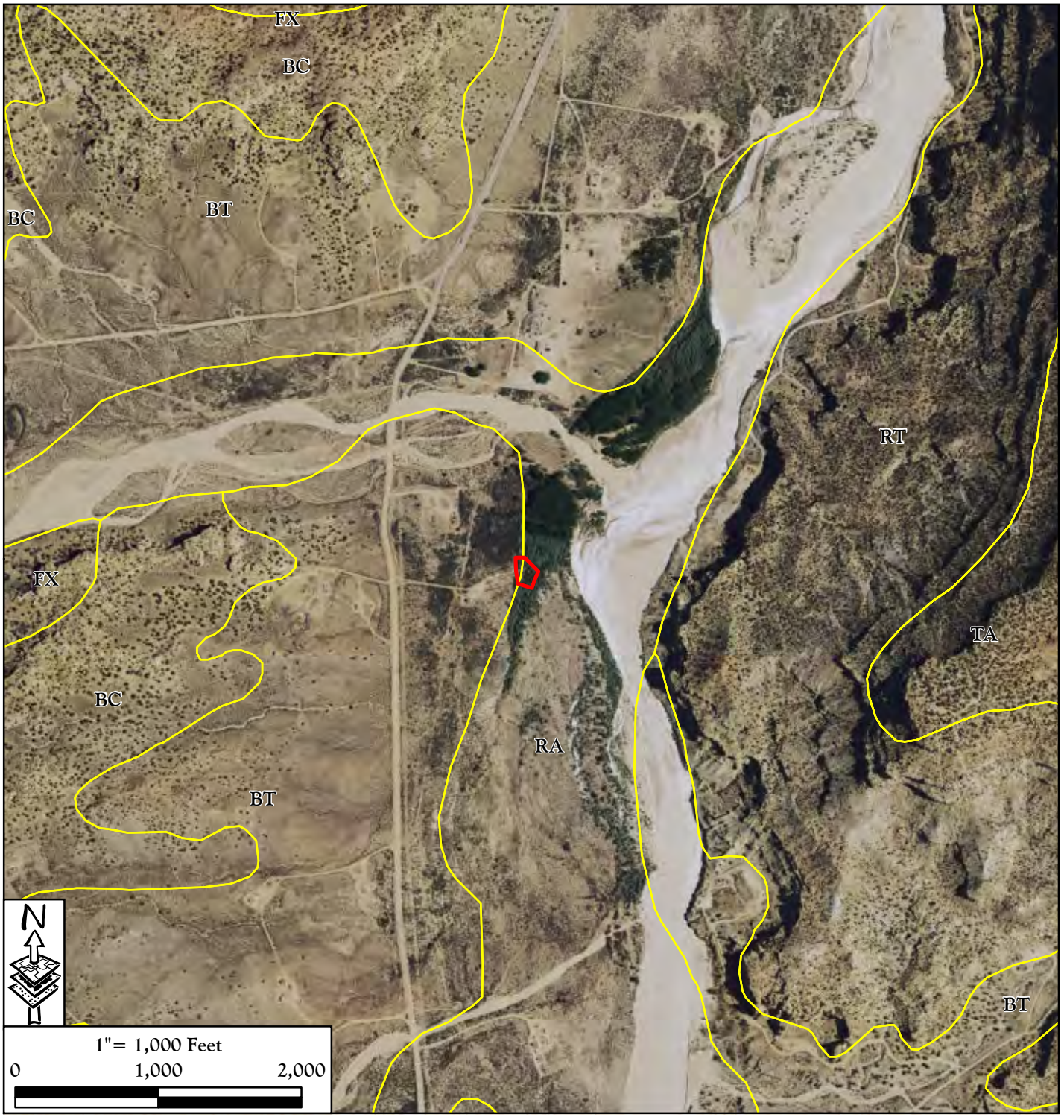
Document Path: S:\Projects\150049 Charles et al Wells\GIS\Fig_2_Location_Map.mxd

NRCS SOIL TYPES:

BT - Blancot-Notal association, gently slopeing
RA - Riverwash

Legend

- Project Area
- NRCS Soils



Sources: Aerial photo provided by ESRI ArcGIS Online (USDA NAIP, taken June 7, 2014), NRCS Web Soil Survey (http://websoilsurvey.nrcs.usda.gov).

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NRCS SOILS MAP

CHARLES ET AL #1
AQUATIC RESOURCE
DELINEATION

FIGURE B-3

Drawn by:	Reviewed by:	Date:	Scale:
TF	KZ	12/23/2015	1 in=1,000 feet

SME Project No.: 150049

Document Path: S:\Projects\150049 Charles et al Wells\GIS\Fig_3_Aerial_Soils_Map.mxd

APPENDIX C
Photo Documentation

Select Photos from Field Investigation

Photos taken by Tim Funk – SME Wetland Scientist on December 7, 2015

PP1 is looking south and depicts the palustrine emergent (PEM) – palustrine scrub-shrub (PSS) mixed wetland within the survey area.

PP2 is looking north, and depicts typical upland conditions within the survey area.

APPENDIX D
Plant List

Appendix D: List of Dominant Plant Species Observed within the Survey Area.

Scientific Name*	Common Name	Wetland Indicator Status**
SHRUBS		
Artemisia tridentata	big sagebrush	NL
Elaeagnus angustifolia	Russian olive	FAC
Ericameria nauseosa	rubber rabbitbrush	NL
HERBS		
Xanthium strumarium	rough cocklebur	FAC
GRAMINOIDS		
Bouteloua gracilis	blue grama	NL
Distichlis spicata	saltgrass	FAC
Juncus arcticus	Arctic rush	FACW
Pascopyrum smithii	Western wheatgrass	FAC
Sporobolus cryptandrus	sand dropseed	FACU

• OBL: Almost always is a hydrophyte, rarely in uplands
• FAC: Commonly occurs as either a hydrophyte or non-hydrophyte
• NL (Not Listed): Generally indicates upland species
• FACW: Usually is a hydrophyte but occasionally found in uplands
• FACU: Occasionally is a hydrophyte but usually occurs in uplands
• N/A: Unable to identify to species due to time of year

* Scientific names according to Synonymized Checklist of the Vascular Flora of the United States, Canada, and Greenland (Kartesz 2009) and National Wetland Plant List (NWPL).

** 2012 NWPL is regionalized along the 10 wetland delineation supplement regions. Wetland indicator status based on Arid West Region.

APPENDIX E
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Charles Et Al No. 1 City/County: San Juan Sampling Date: 12/6/15

Applicant/Owner: ConocoPhilips Company State: NM Sampling Point: T1B1

Investigator(s): TF Section, Township, Range: Sect 12, 27N, 9W

Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): D Lat: 36.586156 Long: -107.740338 Datum: WGS 84

Soil Map Unit Name: Riverwash NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Eleagnus angustifolia	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus arcticus	80	Yes	FACW
2. Distichlis spicata	10	No	FAC
3. Xanthium strumarium	10	No	FAC
4.			
5.			
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: T1B1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5 YR 3/2	95	7.5 YR 4/4	5	C	PL	loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Charles Et Al No. 1 City/County: San Juan Sampling Date: 12/7/15

Applicant/Owner: ConocoPhilips Company State: NM Sampling Point: T1B2

Investigator(s): TF Section, Township, Range: Sect 12, 27N, 9W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): D Lat: 36.586178 Long: -107.740457 Datum: WGS 84

Soil Map Unit Name: Blancot-Notal Association, gently sloping NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Artemisia tridentata	25	Yes	NA
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Sporobolus cryptandrus	25	Yes	FACU
2. Distichlis spicata	10	Yes	FAC
3. Bouteloua gracilis	10	Yes	NA
4. Pascopyrum smithii	5	No	FAC
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: T1B2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 5/4	100					loamy	sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

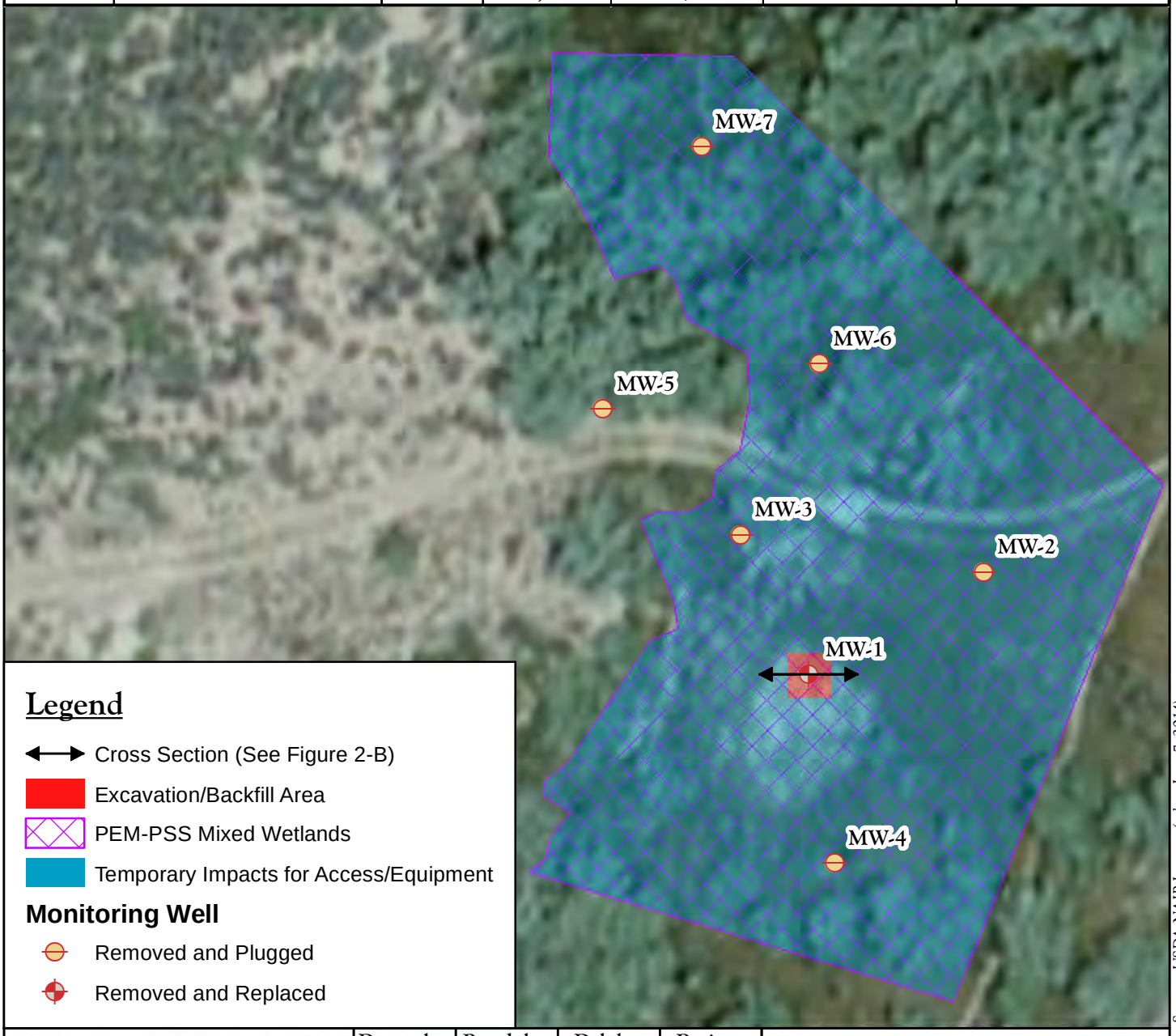
Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT 2
ADDITIONAL FIGURES

Wetland Impact Table						
Well No.	Type of Impact	Acres	Square Feet	Linear Feet	Longitude	Latitude
MW-1	Permanent Discharge	<0.01	100	N/A	-107.740248	36.586076
MW-2	Permanent Discharge	<0.01	1	N/A	-107.740116	36.586142
MW-3	Permanent Discharge	<0.01	1	N/A	-107.740303	36.586161
MW-4	Permanent Discharge	<0.01	1	N/A	-107.740223	36.58596
MW-6	Permanent Discharge	<0.01	1	N/A	-107.740246	36.586268
MW-7	Permanent Discharge	<0.01	1	N/A	-107.740341	36.5864
All	Temporary Disturbance	0.4	17,260	N/A	-107.740226	36.58616
Total		<0.01	17,365	N/A		



Sources: USDA NAIP Imagery (taken June 7, 2014)

SME
ENVIRONMENTAL CONSULTANTS
679 East 2nd Ave. Unit E2, Durango, Colorado 81301
www.sme-env.com (970) 259-9595

Drawn by:	Rvwd. by:	Del. by:	Project.
TF	KZ	TF	SME#
Date:	Rvsn. date:	Scale:	150049
2/18/16	NA	1:420	

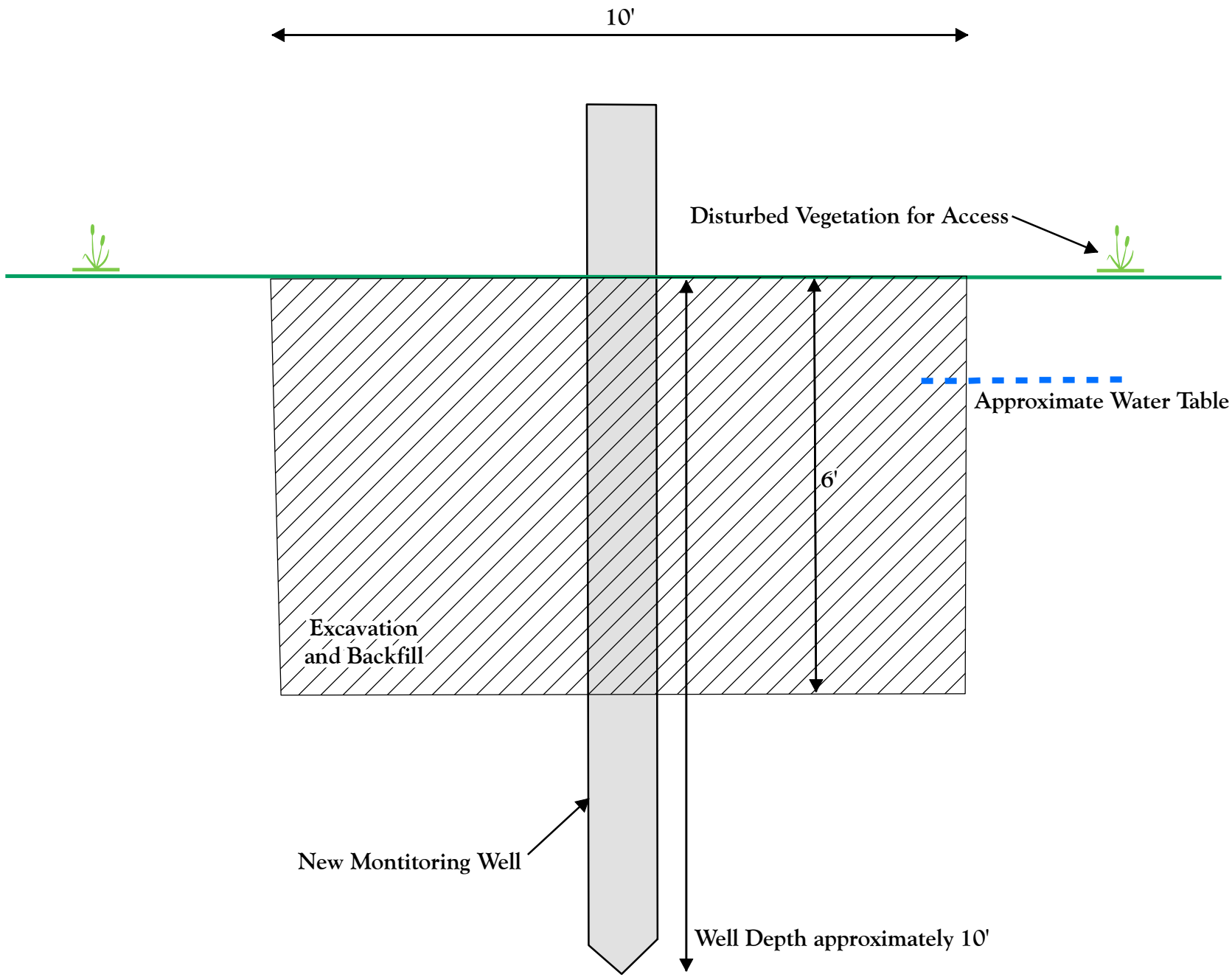
N

0 17.5 35

Feet

FIGURE 2-A
PLAN VIEW
AERIAL MAP

CHARLES ET AL NO. 1
REMEDIATION PROJECT
NATIONWIDE PERMIT 38



Note: Excvation Area located entirely within wetland.

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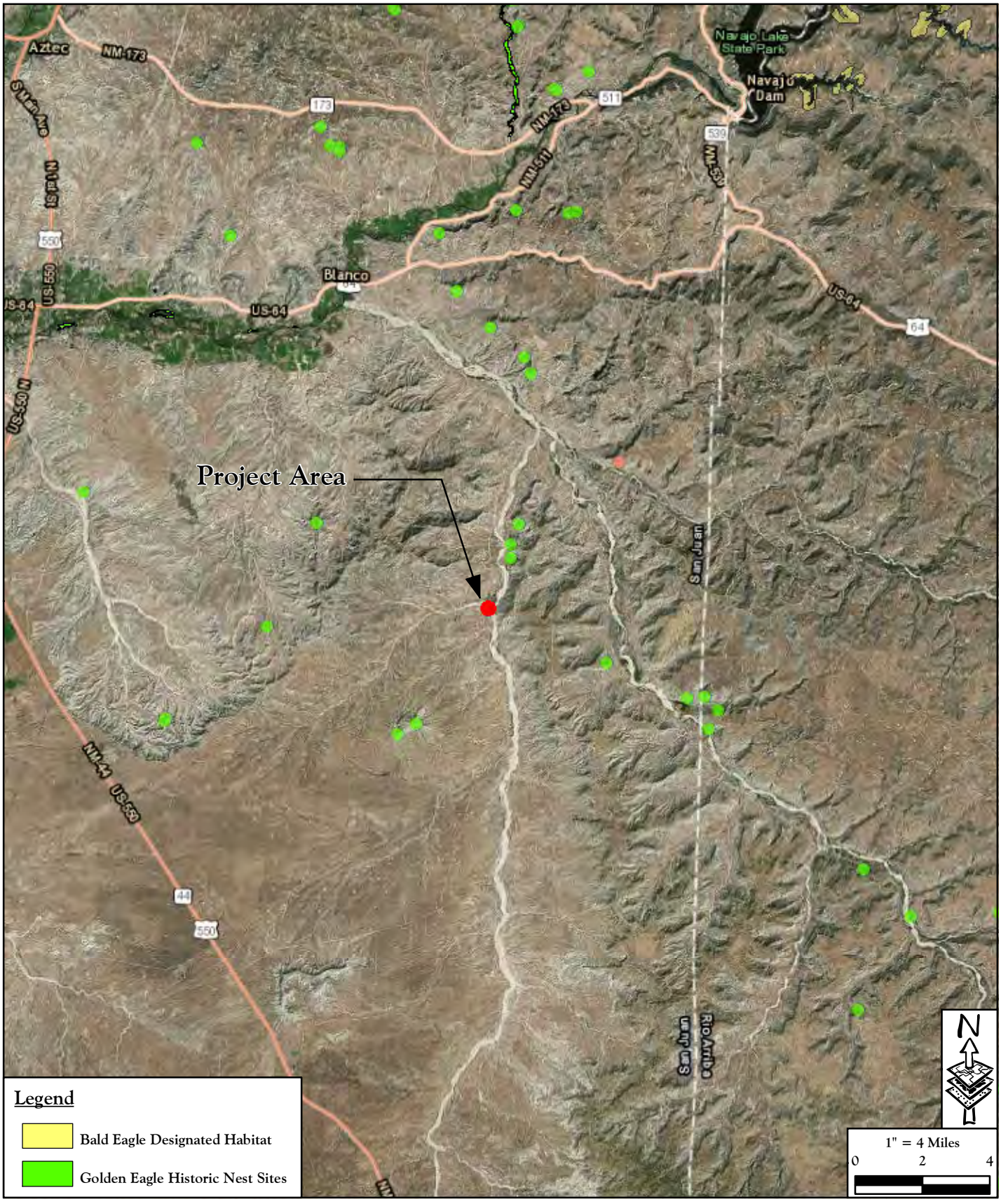
Durango, CO 81301-5563
(p) 970-259-9595 (f) 970-259-0050

CHARLES ET AL NO. 1
REMEDIATION PROJECT
NATIONWIDE PERMIT 38

Date:	2/18/2016
Pro. #:	150049
Name:	Figure 2-B
Scale:	1" = 2'

2-B



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BALD AND GOLDEN EAGLE HABITAT MAP

CHARLES ET AL #1
NWP 38

FIGURE 2-C

Sources: Aerial photo by ESRI ArcGIS Online. Bald & Golden Eagle Habitat by the New Mexico BLM (2012).

ATTACHMENT 3
USEPA 401 WQC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 3 0 2012

Colonel Michael C. Wehr, PE
Division Engineer, South Pacific Division
U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103-1398

Subject: Conditional Clean Water Act Section 401 certification of the 2012 Nationwide Permits for tribal lands within Region 9 of the U.S. Environmental Protection Agency

Dear Colonel Wehr:

The U.S. Environmental Protection Agency, Region 9 (EPA) has responsibility under section 401 of the Clean Water Act (CWA) to evaluate and certify water quality protections for federal permits or licenses issued for work on most tribal lands. We have reviewed the U.S. Army Corps of Engineers (Corps) February 21, 2012 Federal Register notice announcing the reissuance of the Corps' CWA Section 404 Nationwide Permits (NWPs), and are transmitting our conditional programmatic water quality certification of these general permits. The enclosed conditions become binding requirements of any NWP issued for work on tribal lands within Region 9[1]. Please instruct your regulatory staff to provide this certification to anyone contacting the Corps with applicable projects.

Consistent with the *EPA Policy on Consultation and Coordination with Indian Tribes*, EPA sent a letter dated October 31, 2011, offering to consult with tribes in Region 9 on this certification. We subsequently provided our draft conditional certification, dated February 2, 2012, to tribes for review and comment. EPA did not receive any formal requests for consultation or any written comments on the draft certification.

In summary, we are certifying 49 of the 50 proposed active permits with general conditions, 17 of which are further subject to permit-specific conditions. These requirements will protect water quality and help ensure that the NWP program will have no more than minimal adverse impacts on the aquatic environment on tribal lands, both individually and cumulatively, as required by CWA Section 404(e). A table summarizing types of conditions, notification requirements, impact limits, and additional information for each NWP is included in the attached certification. Some conditions of note include:

- Notification to EPA for use of any NWP on tribal lands (General Condition 01)
- Modifications to length, size and/or acreage limits on ten of the NWPs (12, 13, 14, 29, 40, 41, 45, 46, 48, and 49)

[1] This water quality certification does not apply to activities proceeding in the territories of the ten tribes in Region 9 that have been approved as Section 401 certifying authorities —the Navajo Nation, Hualapai Tribe, Paiute-Shoshone of the Bishop Community, Big Pine Paiute-Shoshone Tribe, Twenty-Nine Palms Band of Mission Indians, Hoopa Valley Tribe, Hopi Tribe, Pyramid Lake Paiute Tribe, Dry Creek Rancheria of Pomo Indians, and White Mountain Apache Tribe. In limited circumstances some lands within tribal boundaries fall outside a tribe's Section 401 certifying authority and are subject to this certification.

- General prohibition of impact limit waivers under this programmatic certification, except where EPA approves a written determination that a waiver would result in minimal impacts to aquatic resource functions
- Limiting NWPs 12 (Utility Line Activities) and 14 (Linear Transportation Projects) to a single use for a single and complete project having independent utility
- Requiring EPA approval that NWP 27 projects will increase aquatic resource functions
- Requiring EPA approval that NWP 31 levee vegetation removal will have minimal adverse impacts
- Denial without prejudice of NWP 43 (Stormwater Management Facilities) due to ongoing experience with adverse impacts from in-stream stormwater structures

Projects failing to meet the enclosed conditions, but otherwise qualifying for use of a NWP, are not eligible for coverage under this programmatic certification and must contact EPA for individual project certification. Projects meeting the enclosed conditions must notify EPA pursuant to General Condition 01. *Notification*, but may proceed without further written verification from EPA except when a specific EPA approval is required in accordance with general or permit-specific conditions of this certification. Finally, EPA may periodically undertake inspections or other compliance monitoring activities pursuant to our CWA enforcement authorities (CWA Section 308(a)(4)(B)).

In 2002, we concluded that twelve of the NWPs were insufficiently protective of water quality to be covered by our programmatic certification; in 2007, that list was narrowed to four NWPs. With each five-year revision of the program, the NWPs generally become more protective of the environment, and we commend the many Corps and EPA staff across the nation who worked to further improve the 2012 NWPs. This conditional certification will remain in effect for the authorization period of the 2012 NWPs, and will be revisited and potentially revised when the NWPs are next proposed for reissuance and revisions in 2017.

Thank you for your ongoing partnership in implementing the regulatory programs of the CWA. Please contact me at (415) 972-3572 with any questions regarding this conditional certification, or have your staff contact Paul Amato at (415) 972-3847 or amato.paul@epa.gov.

Sincerely,

Alexis Strauss
Director
Water Division

Enclosure:
General and Permit-Specific Conditions of EPA's Programmatic Clean Water Act Section 401 certification of the 2012 Nationwide Permits for tribal lands in California, Nevada and Arizona

cc:
All federally recognized Indian Tribes within EPA Region 9
Jane Hicks, Regulatory Branch Chief, San Francisco District
Michael Jewel, Regulatory Branch Chief, Sacramento District
David Castanon, Regulatory Branch Chief, Los Angeles District
Allan Steinle, Regulatory Branch Chief, Albuquerque District
Wade Eakle, Corps, South Pacific Division
Debra Daniel, Arizona Department of Environmental Quality
Kelly Wolff-Krauter, Arizona Department of Game and Fish
Thor Anderson, Arizona Department of Transportation
Bill Orme, California State Water Resources Control Board
Sarah Rains, California Department of Fish and Game
Jay Norvell, California Department of Transportation
John Heggeness, Nevada Division of Environmental Protection
Brad Hardenbrook, Nevada Department of Wildlife
Steve Cooke, Nevada Department of Transportation

General Conditions

Projects that are unable to comply with the general conditions of this programmatic certification are denied certification without prejudice and the applicant must apply to EPA for an individual certification. Applicants can apply for an individual certification by providing the same content required in a MPCN described in General Condition 01. *Notification*, of this programmatic certification, but EPA may request additional project information for individual certifications after receiving notification materials. When an individual certification is required, EPA will strive to issue, deny, or waive certification within sixty days of receipt of complete project information, but our review shall not exceed one year, the statutory limit beyond which certification is considered waived.[2]

01. Notification

To improve the government's ability to demonstrate whether the NWP program has minimal adverse impacts to the aquatic environment, individually and cumulatively, all NWP-authorized projects proceeding on tribal lands within Region 9 shall submit a form of notification to EPA Region 9 as described below.[3] Notification is required in order to be eligible for any NWP under this certification.

Projects seeking authorization under this certification will fall under one of the following two notification categories:

Pre-Construction Notification (PCN):

- The Corps already requires a PCN, subject to criteria in the Corps' General Condition 31, because the project proposes use of a NWP that requires a PCN automatically or for specific activities authorized by the NWP. Applicants must simply forward a second copy of the PCN already required by the Corps to EPA Region 9 for notification. If a PCN is already required by the Corps and a waiver of impact limits is proposed beyond what is approved under this certification, applicants must include written determinations specified in General Condition 02. *Waivers* for EPA approval.

Modified Pre-Construction Notification (MPCN):

- The Corps does not require a PCN for any activities authorized under the NWP proposed for use, or for impacts below limits identified in the NWP for a PCN. Applicants must forward a MPCN to EPA Region 9 for notification, subject to the criteria below. If a waiver of impact limits is proposed beyond what is approved under this certification, applicants must include written determinations specified in General Condition 02. *Waivers* for EPA approval.

1) ***Timing.*** Applicants shall submit an MPCN to EPA Region 9 as early as possible, and in advance of any authorization letter from the Corps allowing the applicant to proceed under a given NWP. When an EPA approval is required by condition of this certification, EPA will act within sixty days of receiving a complete MPCN.

2) ***Content.*** MPCNs must be in writing (electronic mail submittal is acceptable) and include the following information:

---

[2] Clean Water Act Section 401 Certification (a): http://water.epa.gov/lawsregs/guidance/wetlands/sec401.cfm

[3] NOTE: this requirement does not modify or eliminate existing Corps requirements regarding PCNs for projects proceeding on tribal lands (or elsewhere).

a) Name, address and telephone numbers of the applicant and any agents or representatives. If available, the electronic mail address and fax numbers for these persons;
b) Location of the proposed project;
c) A description of the proposed project and impacts including
   i) the project's purpose;
   ii) direct and indirect adverse environmental effects the project would cause, including the proposed acreages and linear feet (for streams) of waters impacted, avoided, and where applicable, created or otherwise mitigated;
   iii) any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity.

The description should be sufficiently detailed to determine compliance with NWP and EPA 401 conditions and to determine whether compensatory mitigation may be necessary. Maps, drawings and/or photographs of the project area and aquatic resources are not mandatory, but usually help to clarify the project and allow for quicker review. At minimum, a narrative description of any special aquatic sites and other waters of the United States on the project site must be included;

d) Consistent with General Condition 02. *Waivers*, a written demonstration that any proposed impact limit waiver that may be allowable under this certification will result in minimal impacts to aquatic resource functions;
e) Consistent with General Condition 03. *Avoidance, Minimization, and Mitigation*, a written statement documenting measures taken to avoid and minimize temporary and permanent impacts to waters of the U.S.;
f) Consistent with General Condition 04. *Prohibition on the Multiple Use of One NWP for a Single Project*, for proposed utility or transportation projects where the same NWP is proposed at multiple locations, a written determination will be provided describing independent utility of each impact location and how the project will not contribute to more than minimal direct, indirect and cumulative impacts to waters of the U.S., either at the impact site or to upstream, downstream, or adjacent aquatic resources;
g) The name(s) of any species listed as endangered or threatened under the Endangered Species Act which may be adversely affected by the proposed work, either directly or by impacting designated critical habitat;
h) Identification of any cultural or historic properties listed in, or eligible for listing in, the National Register of Historic Places that may be adversely affected by the proposed work.

Written notification should be mailed to USEPA Region 9, WTR-8, 75 Hawthorne Street, San Francisco, CA 94105.

02. Waivers

For certain NWPs, Corps District Engineers may waive impact thresholds for intermittent and ephemeral drainages by making a written determination that the discharge will result in minimal adverse effects. To ensure that these waters, commonly found on tribal lands in the arid southwest, receive an adequate level of protection, and to prevent the NWP Program from having more than minimal adverse impacts to the aquatic environment, all proposed impact limit waivers are denied under this certification unless EPA approves a written determination that the waiver will not exceed minimal impacts to aquatic resource functions.

For some NWPs where the Corps does not include an impact limit, EPA has added an impact limit as a permit-specific condition. Some of these NWPs also include a condition that a waiver may be provided when EPA approves a written determination that the waiver will not exceed minimal impacts to aquatic resource functions.

Impacts to special aquatic sites are not permitted under this certification unless EPA approves a written determination that impacts to aquatic resource functions will be minimal. "Special aquatic sites" include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.

When EPA approval is required for a waiver, EPA will act within sixty days of receiving a complete PCN or MPCN.

03. Avoidance, Minimization, and Mitigation

To protect water quality and beneficial uses of U.S. waters on tribal lands, all projects using NWPs must avoid discharges to the maximum extent practicable, and utilize the best available and practicable means of minimizing the adverse impact of discharges that cannot be avoided.

A written statement documenting measures taken to avoid and minimize temporary and permanent impacts to waters of the U.S. will be provided to EPA and the Corps with each PCN or MPCN.

To the extent practicable, temporary impact sites will be returned to pre-construction contours and substrate. Where applicable, banks shall be reseeded or replanted with native vegetation.

EPA shall make a written determination, within sixty days of receipt of a complete PCN or MPCN, whether compensatory mitigation measures are required to ensure the activity will have only minimal adverse effects, but no such determination is required for a project to begin work if otherwise in compliance with the NWP, this programmatic certification, and any applicable tribal or local authorities' requirements. Nevertheless, should compensatory mitigation be determined necessary by EPA, the mitigation becomes a condition of water quality certification and thus a condition of the Corps' permit. Failure to address an EPA mitigation requirement would therefore place a permitee out of compliance with their NWP and potentially subject to a range of Corps and EPA enforcement actions.

The need for post-project performance and/or mitigation monitoring and reporting (if applicable) will be determined by EPA on a case-by-case basis.

04. Prohibition on the Multiple Use of One NWP for a Single Project

Permittees may not use the same NWP multiple times (more than once) for one single and complete project at locations that do not have independent utility; to do so circumvents acreage limitations of the NWPs and may result in more than minimal adverse impacts to water quality and other ecosystem services. For example, under this certification, linear transportation projects on tribal lands must sum the impacts of each proposed crossing of individual waters of the U.S. and use that total to determine eligibility for NWP 14 (Linear Transportation Projects). If the acreage or linear foot impacts exceed the limits of the applicable NWP (or combination of applicable *different* NWPs), minimal adverse impacts to water quality may be exceeded and the project is not eligible for 401 certification under this programmatic action. Under these circumstances, projects must seek individual certification from EPA, and EPA may grant, grant with conditions, waive, or deny 401 certification of the project under the NWP. In the event of a denial, the NWP would not be available to the project proponent and therefore

applicants may need to apply to the Corps for authorization under a different General Permit, Letter of Permission, or Individual Permit as appropriate and determined by the Corps. EPA would review these other proposed permit actions for case-by-case certification. Note that, on a case-by-case basis, EPA may waive this General Condition and allow the use of multiple NWPs if the applicant so appeals, and demonstrates in their PCN or MPCN that authorization under the NWP will result in minimal and/or completely mitigated impacts to the aquatic environment, individually and cumulatively.

05. Use of Appropriate Fill Material

To the extent practicable, local, native materials should be used as fill material. (*e.g.*, soil, sand, or rock from the site or near the site; clean building materials or clean imported earthen fill). Inappropriate and unauthorized fill materials include, but are not limited to: tires, junked or abandoned vehicles, appliances, or other equipment; garbage; debris; oil drums or other chemically contaminated vessels; artificial turf; non-native vegetation; etc. If an applicant has any doubts or questions about the suitability of a proposed fill material, they should consult with the Corps and/or EPA prior to discharging into waters of the U.S. Such consultation may be via phone, or written letter, fax or electronic mail.

06. Dewatered Conditions

Discharges below the ordinary high water mark or within jurisdictional wetlands are not approved under this certification unless the discharge site is naturally dewatered (*e.g.*, seasonally dry), or dewatering has been authorized by the Corps, thereby avoiding direct discharge of pollutants into the water column. If the site is artificially dewatered, permitees shall, to the extent practicable, avoid dewatering techniques that require additional temporary or permanent discharges of fill material within jurisdictional waters (*e.g.*, coffer dams).

07. Fills Within Floodplains

Projects requiring NWP authorization for discharges of fill material within 100-year floodplains shall include in their PCN or MPCN a statement of compliance with Executive Order 11988 (Floodplain Management). However, discharges within the FEMA-mapped 100-year floodplain associated with residential and commercial development are not certified for use under the NWP program on tribal lands. The 100-year floodplain is based on hydrologic conditions prior to permit issuance.

08. Best Management Practices

Except as specified in the application, no debris, silt, sand, cement, concrete, oil or petroleum, organic material, or other construction related materials or wastes shall be allowed to enter into or be stored where it may be washed by rainfall or runoff into waters of the U.S.

Silt fences, straw wattles, and other techniques shall be employed as appropriate to protect waters of the U.S. from sedimentation and other pollutants.

Water used in dust suppression shall not contain contaminants that could violate surface water or aquifer standards.

Permitees and their contractors shall take necessary steps to minimize channel and bank erosion within waters of the United States during and after construction.

A copy of the permit conditions shall be provided to all contractors and subcontractors, and will be posted visibly at project construction sites.

09. Transportation Projects

Permittees shall implement State transportation agencies' guidelines for construction sites to protect water quality and aquatic habitat. In California, CALTRANS has guidance in the *CALTRANS Stormwater Quality Manuals and Handbooks*[4]; in Nevada NDOT has guidance in their *NDOT Water Quality Manuals*[5]; and in Arizona, ADOT has guidance in their *Erosion and Pollution Control Manual*[6].

10. Inspections

The permittee shall allow EPA representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification.

11. Buffers

Unless specifically determined to be impracticable by the Corps and EPA, for NWPs 29, 39, 40, and 42, the permittee shall establish and maintain upland buffers in perpetuity between upland structures constructed as part of the project approved by the NWP and all preserved open waters, streams and wetlands, including created, restored, enhanced or preserved waters of the U.S. Buffers should be vegetated whenever practicable. Plantings in buffers should be dominated by native species, and not include any federal or state listed invasive or noxious weed species[7]. Except in unusual circumstances, as determined by the Corps and EPA, buffers shall be at least 50 feet in width from the lateral limits of the Corp's jurisdiction[8].

12. *Protected Lands*

The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title of interest in real property for areas designated to be preserved as part of compensatory mitigation for authorized impacts, including any associated covenants or restrictions.

13. *Impaired Water Bodies*

If a proposed activity would result in dredge or fill in water bodies listed as impaired under Section 303(d) of the CWA, the PCN or MPCN must include specific measures that will be used to avoid exacerbating the impairment(s).[9]

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[4] http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm

[5] http://www.nevadadot.com/About_NDOT/NDOT_Divisions/Engineering/Hydraulics/Water_Quality_BMP_Manuals.aspx

[6] http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/Manuals.asp

[7] http://plants.usda.gov/java/noxiousDriver

[8] ordinary high water mark in non-tidal and the mean higher high water line in tidal waters

[9] EPA Region 9 lists of impaired water bodies: http://www.epa.gov/region9/water/tmdl/303d.html

Specific Nationwide Permits

NWP-01 Aids to Navigation
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-02 Structures in Artificial Canals
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-03 Maintenance
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

"Currently serviceable structures" which may be maintained under this permit do not include undersized culverts or structures that cause or exacerbate channel incision, bank destabilization, and/or prevent fish and wildlife passage due to inadequate design or construction standards.

Certification of this permit is granted only if the existing structure proposed to be maintained demonstrably preserves (via design, flow modeling or other information in the PCN) the natural functions of the affected aquatic resource when the structure is fully operational. Otherwise, an alternative permit should be utilized as appropriate (*e.g.*, NWP 13 Bank Stabilization).

Where existing bank stabilization structures are to be maintained, bioengineered methods shall be utilized to the extent practicable in lieu of "rip-rap" or other hardscape engineered materials.

This permit shall not authorize the enlargement of, or increase in, the footprint of a structure within waters of the U.S., unless that enlargement consists of the replacement of existing artificial channel armoring materials (e.g., rip-rap, soil cement, etc.) with low-impact bioengineered natural channel design structures (e.g., log revetments, geotextile rolls/mats, root wads, brush mattresses, willow wattling, etc.)

NWP-04 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-05 Scientific Measurement Devices
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-06 Survey Activities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-07 Outfall Structures and Associated Intake Structures
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-08 Oil and Gas Structures on the Outer Continental Shelf
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-09 Structures in Fleeting and Anchorage Areas
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-10 Mooring Buoys
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-11 Temporary Recreational Structures
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-12 Utility Line Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of waters of the U.S., including intermittent and ephemeral streams. Only the 300 linear foot limit may be waived by EPA upon approval, consistent with General Condition 02. *Waivers*.

Under this certification, NWP 12 can only be used once for a single and complete project having independent utility. When NWP 12 is proposed for multiple locations a written determination will be provided describing independent utility of each impact location for approval by EPA, consistent with General Condition 01. *Notification*.

Permittees are required to ensure that the construction of utility lines does not result in the draining of any water of the U.S., including wetlands. This may be accomplished through the use of clay blocks, bentonite, or other suitable material (as approved by EPA) to seal the trench.

For utility line trenches, during construction, the permittee shall remove and stockpile, separately, the top 6 – 12 inches of topsoil. Following installation of the utility line(s), the permittee shall replace the stockpiled topsoil on top and seed the area with native vegetation.

NWP-13 Bank Stabilization
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of waters of the U.S., including intermittent and ephemeral streams.

All bank stabilization activities under this permit shall involve either the sole use of native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.) or a combination of hard-armoring (e.g. rock) and native vegetation or bioengineered design techniques, unless specifically determined to be impracticable by the EPA.

NWP-14 Linear Transportation Projects
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of non-tidal waters of the U.S., including intermittent and ephemeral streams, and 1/3 acre or 300 linear feet of tidal waters of the U.S.

NWP 14 can only be used once for a single and complete project having independent utility. When NWP 14 is proposed for multiple locations a written determination will be provided describing independent utility of each impact location for approval by EPA, consistent with General Condition 01. *Notification.*

All bank stabilization activities under this permit shall involve either the sole use of native vegetation or other bioengineered design techniques (e.g. willow plantings, root wads, large woody debris, etc.) or a combination of hard-armoring (e.g. rock) and native vegetation or bioengineered design techniques, unless specifically determined to be impracticable by the EPA.

NWP-15 U.S. Coast Guard Approved Bridges
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-16 Return Water from Upland Contained Disposal Areas
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-17 Hydropower Projects
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-18 Minor Discharges
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-19 Minor Dredging
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-20 Response Operations for Oil and Hazardous Substances
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-21 Surface Coal Mining Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Before an applicant may use this permit, EPA must approve a compensatory mitigation plan sufficient to ensure impacts to aquatic resource functions are minimal.

NWP-22 Removal of Vessels
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-23 Approved Categorical Exclusions
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-24 Indian Tribe or State Administered Section 404 Programs
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-25 Structural Discharges
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-26 [Reserved]
This NWP is no longer in use. No certification is necessary.

NWP-27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities
Subject to the General Conditions above, and the following permit-specific condition, this NWP is hereby programmatically certified.

Upon review of a PCN or MPCN, consistent with General Condition 01. *Notification*, EPA will approve or deny on a case-by-case basis whether the proposed project will result in a net increase in aquatic resource functions and services, consistent with the NWP. An individual certification may be required in the event EPA denies approval of a waiver for this NWP.

NWP-28 Modifications of Existing Marinas
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-29 Residential Developments
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to 1/4 acre of impacts to non-tidal waters of the U.S. for single family houses, and the greater of 1/2 acre or 300 linear feet of impact to waters of the U.S. for multi-unit residential developments.

Under this certification, this permit will not be used to approve residential developments and their attendant features within the 100-year floodplain. The 100-year floodplain is determined based on hydrologic conditions at the time of the NWP application.

Recreational facilities such as playgrounds, playing fields, and golf courses are not authorized under this certification. These projects are separate and distinct from residential developments, are not required to be included in a residential development project for it to be practicable, and their construction within waters is normally avoidable.

NWP-30 Moist Soil Management for Wildlife
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-31 Maintenance of Existing Flood Control Facilities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Upon review of a PCN, consistent with General Condition 01. *Notification*, EPA will approve or deny on a case-by-case basis whether the proposed project will result in minimal impacts to waters of the U.S. for projects that include removal of levee vegetation.

NWP-32 Completed Enforcement Actions
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-33 Temporary Construction, Access, and Dewatering
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-34 Cranberry Production Activities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-35 Maintenance Dredging of Existing Basins
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-36 Boat Ramps
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to 50 cubic yards of fill and ramps that are 20 feet wide or less.

NWP-37 Emergency Watershed Protection and Rehabilitation
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-38 Cleanup of Hazardous and Toxic Waste
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-39 Commercial and Institutional Developments
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Under this certification, this permit will not be used to approve commercial and institutional developments and their attendant features within the 100-year floodplain. The 100-year floodplain is determined based on hydrologic conditions at the time of the NWP application.

Recreational facilities such as playgrounds, playing fields, and golf courses are not authorized under this certification. These projects are separate and distinct from commercial and institutional development, are not required to be included in such developments to be practicable, and their construction within waters is normally avoidable.

NWP-40 Agricultural Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Construction of farmponds under this certification is limited to those that do not qualify for the Clean Water Act section 404(f)(1)(C) exemption because of the recapture provision at section 404(f)(2).

Under this certification, no discharges are authorized which would impact hydrological connectivity between jurisdictional waters to such an extent as to convert waters of the U.S. to uplands, or otherwise isolate waters and eliminate federal regulatory jurisdiction.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of impacts to non-tidal waters of the U.S., including intermittent and ephemeral streams.

NWP-41 Reshaping Existing Drainage Ditches
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of impacts to non-tidal waters of the U.S., including intermittent and ephemeral streams.

All sidecast materials from excavation must be stored and/or disposed of within non-jurisdictional uplands under this certification. A statement must be included in the notification as to how the applicant's activities will improve water quality.

Under this certification, no discharges are authorized which would impact hydrological connectivity between jurisdictional waters to such an extent as to convert waters of the U.S. to uplands, or otherwise isolate waters to eliminate federal regulatory jurisdiction.

NWP-42 Recreational Facilities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-43 Stormwater Management Facilities
Use of this NWP is not covered by this programmatic certification, and prospective users on tribal lands must seek individual project certification from EPA in all cases. NWP authorization of constructing stormwater facilities within waters of the U.S. discourages applicants from using practicable construction options that locate stormwater retention and detention facilities "off line" from streams. For example, retention facilities are often built as sediment (or debris) basins within a stream. This practice includes constructing a dam in the stream, excavating out a basin, and regular sediment removal to maintain the structure. These facilities cause considerable and unnecessary damages to stream functions as retention facilities can be located "off line" by constructing a high flow diversion channel above the ordinary high water mark. If applicants can continue to use the traditional, more damaging practices that are sanctioned by this NWP, there is no incentive for these management practices to improve. We do not believe NWP-43 for new facilities complies with the CWA Section 404(b)(1) Guidelines.

CWA section 401 certification for this NWP is denied without prejudice. Applicants for projects on tribal lands must apply to EPA for individual certification if this NWP is proposed to be used. Applicants can apply for an individual certification by providing the same content required in a MPCN described in General Condition 01. *Notification*, of this certification.

NWP-44 Mining Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Applicants must ensure that mining activities (e.g., aggregate mining) approved by this NWP will not cause upstream head cutting or downstream incision. Notification to EPA shall include a narrative description and design drawing, when applicable, of any measure that will be implemented to comply with the condition.

When used for in-stream aggregate mining activities, compensatory mitigation is likely to be required due to extensive indirect impacts and temporal losses typical of this type of impact.

NWP-45 Repair of Uplands Damaged by Discrete Events
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of impacts to non-tidal waters of the U.S., including intermittent and ephemeral streams.

NWP-46 Discharges in Ditches
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of impacts to non-tidal waters of the U.S., including intermittent and ephemeral streams.

NWP-47 [Reserved]
This NWP is no longer in use. No certification is necessary.

NWP-48 Commercial Shellfish Aquaculture Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Under this certification, impacts to submerged aquatic vegetation are prohibited, consistent with NWP 19. *Minor Dredging*, and NWP 36. *Boat Ramps*.

NWP-49 Coal Remining Activities
Subject to the General Conditions above, and the following permit-specific conditions, this NWP is hereby programmatically certified.

Unless approved by EPA, consistent with General Condition 02. *Waivers*, impacts under this permit are limited to the greater of 1/2 acre or 300 linear feet of impacts to non-tidal waters of the U.S., including intermittent and ephemeral streams.

Applicants must provide information in the PCN illustrating that activities authorized under NWP-49 will result in a net increase in aquatic resource functions.

NWP-50 Underground Coal Mining Activities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-51 Land-Based Renewable Energy Generation Facilities
Subject to the General Conditions above, this NWP is hereby programmatically certified.

NWP-52 Water-Based Renewable Energy Generation Pilot Projects
Subject to the General Conditions above, this NWP is hereby programmatically certified.

Summary Table – EPA Region 9 §401 Certification of NWPs for projects on tribal lands

NWP	Certification Status			*Notification	Impact Limits	Notes
	General Conditions	Specific Conditions	Denied			
1	X			MPCN	None	
2	X			MPCN	None	
3	X	X		PCN or MPCN	Generally no increase in fill footprint	-No undersized structures -Bioengineering used whenever practicable
4	X			MPCN	None	
5	X			MPCN	25 cyds	
6	X			MPCN	25 cyds	
7	X			PCN	None	
8	X			PCN	None	
9	X			MPCN	None	
10	X			MPCN	None	
11	X			MPCN	None	
12	X	X		PCN or MPCN	**1/2 acre or 300'	-Only once per single and complete project with independent utility -Waiver approval required from EPA for 300'
13	X	X		PCN or MPCN	**1/2 acre or 300'	Waiver approval required from EPA
14	X	X		PCN or MPCN	**1/2 acre or 300' non-tidal, 1/3 acre or 300' tidal	Only once per single and complete project with independent utility
15	X			MPCN	None	
16	X			MPCN	None	
17	X			PCN	None	
18	X			PCN or MPCN	1/10 acre or 25 cyds	
19	X			MPCN	25 cyds	
20	X			MPCN	None	
21	X	X		PCN	1/2 acre or 300'	EPA approves mitigation plan first
22	X			PCN or MPCN	None	
23	X			PCN or MPCN	None	
24	X			MPCN	None	
25	X			MPCN	None	
26						Reserved
27	X	X		PCN or MPCN	None	Approval required from EPA
28	X			MPCN	None	
29	X	X		PCN or MPCN	**1/4 acre for single house, 1/2 acre or 300' for multi-unit	-Waiver approval required from EPA -No recreational impacts authorized
30	X			MPCN	None	
31	X	X		PCN	None	Approval for levee vegetation removal required from EPA

32	X			MPCN	5 acres non-tidal or 1 acre tidal	
33	X			PCN	None	
34	X			PCN	10 acres	
35	X			MPCN	Lesser of previously authorized or controlling depths	
36	X			PCN or MPCN	50 cyds, 20'-wide ramp	Waiver approval required from EPA
37	X			PCN or MPCN	None	
38	X			PCN	None	
39	X	X		PCN or MPCN	1/2 acre or 300' non-tidal	Waiver approval required from EPA
40	X	X		PCN or MPCN	1/2 acre or 300' non-tidal	Waiver approval required from EPA
41	X	X		PCN or MPCN	**1/2 acre or 300' non-tidal	Waiver approval required from EPA
42	X	X		PCN	1/2 acre or 300' non-tidal	
43			X	MPCN	N/A	Must apply to EPA for individual cert.
44	X	X		PCN or MPCN	1/2 acre or 300' non-tidal	Waiver approval required from EPA
45	X	X		PCN or MPCN	**1/2 acre or 300'	Waiver approval required from EPA
46	X	X		PCN or MPCN	**1/2 acre or 300' non-tidal	Waiver approval required from EPA
47						Reserved
48	X	X		PCN or MPCN	**Impacts to submerged aquatic veg. prohibited	
49	X	X		PCN or MPCN	**1/2 acre or 300' non-tidal	Waiver approval required from EPA
50	X	X		PCN or MPCN	1/2 acre or 300' non-tidal	Waiver approval required from EPA
51	X	X		PCN or MPCN	1/2 acre or 300' non-tidal	Waiver approval required from EPA
52	X	X		PCN or MPCN	1/2 acre or 300'	Waiver approval required from EPA

***Notification Category: Pre-Construction Notification (PCN):**

- The Corps already requires a PCN, subject to criteria in the Corps' General Condition 31, because the project proposes use of a NWP that requires a PCN automatically or for specific activities authorized by the NWP. Applicants must simply forward a second copy of the PCN already required by the Corps to EPA Region 9 for notification. If a PCN is already required by the Corps and a waiver is proposed for impacts beyond those approved under this certification, applicants must include a written determination that the waiver will not result in more than minimal impacts to aquatic resource functions for EPA approval.

Notification Category: Modified Pre-Construction Notification (MPCN):

- The Corps does not require a PCN for any activities authorized under the NWP proposed for use, or because proposed impacts fall below impact limits identified in the NWP for a PCN. Applicants must forward a MPCN to EPA Region 9 for notification. If a waiver is proposed for impacts beyond those approved under this certification, applicants must include a written determination that the waiver will not result in more than minimal impacts to aquatic resource functions for EPA approval, subject to the criteria below.

**Impact limits are modified by EPA

ATTACHMENT 4
USACE – ALBUQUERQUE DISTRICT PCN FORM

U.S. Army Corps of Engineers

South Pacific Division- ALBUQUERQUE DISTRICT

Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U.S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

Box 1 Project Name Charles et al #1 Remediation Project			
Applicant Name Keith Coffman		**Applicant Title** Manager HSE	
Applicant Company, Agency, etc. ConocoPhillips Company		Applicant's internal tracking number (if any) SME 150049, COPC	
Mailing Address 600 N. Dairy Ashford, 2WL 11050, Houston, TX 77079			
Work Phone with area code 832.486.2226	Mobile Phone with area code 281.799.0624	Home Phone with area code	Fax # with area code N/A
E-mail Address keith.coffman@cop.com	Relationship of applicant to property: ☐ Owner ☐ Purchaser ☐ Lessee ■ Other:		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work only after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
Signature of applicant B. K. Coffman			Date (mm/dd/yyyy) 02/25/2016

If anyone other than the person named as the Applicant will be in contact with the U.S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.

Box 2 Authorized Agent/Operator Name Tim Funk		**Agent/Operator Title** Environmental Scientist	
Agent/Operator Company, Agency, etc. SME Environmental, Inc.		E-mail Address tfunk@sme-env.com	
Mailing Address 679 East 2nd Avenue, Unit E2, Durango, CO 81301			
Work Phone with area code 970-259-9595	Mobile Phone with area code 970-759-5012	Home Phone with area code	Fax # with area code 970-259-0050
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant B. K. Coffman			Date (mm/dd/yyyy) 02/25/2016
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent Tim J. Funk			Date (mm/dd/yyyy) 2/25/2016

Revised April 24, 2012. For the most recent version of this form, visit your Corps District's Regulatory website.

Box 3 Name of Property Owner(s), if other than Applicant: Navajo Nation Allotment		
Owner Title BIA-Eastern Navajo Agency	**Owner Company, Agency, etc.** US Federal Government	
Mailing Address P.O. Box 328, Crownpoint, NM 87313		
Work Phone with area code (505) 786-6032	Mobile Phone with area code	Home Phone with area code

Box 4 Name of Contractor(s) (if known): Patrick Montoya		
Contractor Title Owner	**Contractor Company, Agency, etc.** MMT Incorporated	
Mailing Address 208 Hwy 511 Blanco, NM 87412		
Work Phone with area code 505-632-8823	Mobile Phone with area code	Home Phone with area code

Box 5 Site Number 1 **of** 1 **. Project location(s), including street address, city, county, state, zip code where proposed activity will occur:**

Bloomfield, New Mexico 87413, San Juan County

Name of Waterbody(ies) (if known, otherwise enter "an unnamed tributary to"): Tributary to what named, downstream waterbody: Blanco Wash to Largo Canyon	
Latitude & Longitude (D/M/S, DD, or UTM with Zone): 36.58616 N, 107.740226 W NAD 83	Section, Township, Range: 27 N, 9 W, Section 12
County Assessor Parcel Number (Include County name): 2-900-500-900-500, San Juan County, NM	USGS Quadrangle map name: Fresno Canyon, NM
Watershed (HUC and watershed name[1]): [1]http://water.usgs.gov/GIS/regions.html 14080103, Blanco Canyon	Size of permit area or project boundary: acres 0.40 linear feet
Directions to the project location and other location descriptions, if known: From Bloomfield, NM travel south on US 550 for 1 mile to County Road 4990, and turn left. Follow this road for approximately 17 miles, turn right on CR 7007. Site is on left in 6 miles.	
Access limitations or restrictions (if any): 4-wheel drive recommended.	

Box 6 Nature of Activity (Description of the project, include all features):
See Section 3 of cover letter

Project Purpose (Description of the reason or purpose of the project):
See Section 3 of cover letter

Reason(s) for Discharge into Waters of the United States (Description of why dredged and/or fill material needs to be placed in Waters of the United States):
See Section 3 of cover letter

Proposed discharge of dredge and/or fill material. Indicate total surface area in **acres** and **linear feet** (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, vernal pool, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit[1]:

[1] Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx

Water Body Type	Requested NWP Number: 38				Requested NWP Number:				Requested NWP Number:			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
Wetland	<0.01	NA	0.4	NA								
Total:	<0.01	NA	0.4	NA								

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock		
Soil/Dirt/Silt/Sand/Mud	4	5
Concrete		
Structure		
Stumps/Root wads		
Other:		
Total:	4	5

Activity requires a written waiver to exceed specified limits of the Nationwide Permit? ☐ Yes ■ No
If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than ½-acre of Waters of the United States? ☐ Yes ■ No
If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4):

Describe direct and indirect effects caused by the activity (see General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1): See Section 3 of cover letter

Potential cumulative impacts of proposed activity(if any): None

Drawings and figures (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):
Vicinity map: ■ Attached (or mail copy separately if applying electronically)
To-scale Plan view drawing(s): ■ Attached (or mail copy separately if applying electronically)
To-scale elevation and/or Cross Section drawing(s): ■ Attached (or mail copy separately if applying electronically)
Numbered and dated pre-project color photographs: ■ Attached (or mail copy separately if applying electronically)
Sketch drawing(s) or map(s): ■ Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?
■ Yes, Attached[2] (or mail copy separately if applying electronically) ☐ No
If a delineation has been completed, has it been verified in writing by the Corps?
☐ Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy): Corps file number: ■ No
[2]If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach[3] a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual.
[3]Or mail copy separately if applying electronically

Is any portion of the work already complete? ☐ YES ■ NO
If yes, describe the work:

Box 7 Authority:
Is Section 10 of the Rivers and Harbors Act applicable?: ☐ YES ■ NO
Is Section 404 of the Clean Water Act applicable?: ■ YES ☐ NO

Is the project located on U.S. Army Corps of Engineers property or easement?: ☐ YES ■ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO
Would the project affect a U.S. Army Corps of Engineers structure?: ☐ YES ■ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?: ☐ YES ■ NO
Is the project located on Tribal Lands?: ■ YES ☐ NO

Box 8 Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?: ☐ YES ■ NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):

Location of larger development (if discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):
Not Applicable

Box 9 Measures taken to avoid and minimize impacts to waters of the United States:

See Section 3 of cover letter

Box 10 Proposed Compensatory Mitigation related to fill/excavation and dredge activities. Indicate in **acres** and **linear feet** (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, vernal pool, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands[1]). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:

[1] For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
Total:										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:
Activities are under limits of mitigation thresholds.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program:

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008, Final Mitigation Rule[2] and District Guidelines[3,4,5]?

[2] http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx
[3] **Sacramento and San Francisco Districts**-http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf
[4] **Los Angeles District**-http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf
[5] **Albuquerque District**- http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits/Mitigation.aspx.

☐ Yes, Attached (or mail copy separately if applying electronically) ■ No

If no, a mitigation plan must be prepared and submitted, if applicable.

Mitigation site(s) Latitude & Longitude (D/M/S, DD, or UTM with Zone):	USGS Quadrangle map name(s):
Assessor Parcel Number(s):	Section(s), Township(s), Range(s):

Other location descriptions, if known:

Directions to the mitigation location(s):

Box 11 Threatened or Endangered Species and Essential Fish Habitat

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat (or proposed critical habitat) within the project area (include scientific names (e.g., Genus species), if known):

a. See Section 6 of cover lett b.
c. d.
e. f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?
☐ Yes, Report attached (or mail copy separately if applying electronically) ■ No

Has a biological assessment or evaluation been completed for the proposed project?
■ Yes, Report attached (or mail copy separately if applying electronically) ☐ Not attached

Has Section 7 consultation been initiated by another federal agency?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ■ No

Has Section 10 consultation been initiated for the proposed project?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ■ No

Has the USFWS/NOAA Fisheries issued a Biological Opinion?
☐ Yes, Attached (or mail copy separately if applying electronically) ■ No
If yes, list date Opinion was issued (mm/dd/yyyy):

Is the project located within Essential Fish Habitat[1] (EFH)? ☐ Yes ■ No

[1] http://swr.nmfs.noaa.gov/hcd/HCD_webContent/EFH/index_EFH.htm

Box 12 Historic Properties and Cultural Resources:

Are any cultural resources of any type known to exist on-site? ☐ Yes ■ No

Please list any known historic properties listed, or eligible for listing, on the National Register of Historic Places:

a. See Section 7 of Cover Le b.
c. d.
e. f.

Has a cultural resource records search been conducted?
☐ Yes, Report attached (or mail copy separately if applying electronically) ■ No

Has a cultural resource pedestrian survey been conducted for the site?
☐ Yes, Report attached (or mail copy separately if applying electronically) ■ No

Has another federal agency been designated the lead federal agency for Section 106 consultation?
☐ Yes, Designation letter/email attached (or mail copy separately if applying electronically) ■ No

Has Section 106 consultation been initiated by another federal agency?
☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ■ No

Has a Section 106 MOA or PA been signed by another federal agency and the SHPO?
☐ Yes, Attached (or mail copy separately if applying electronically)
■ No
If yes, list date MOA or PA was signed (mm/dd/yyyy):

Box 13 Section 401 Water Quality Certification (New Mexico):

I have read and will comply with applicable conditions of state or tribal water quality certifications. (ftp://ftp.nmenv.state.nm.us/www/swqb/WPS/401-404/NWPCertificationNotice04-13-2012.pdf)

☒ Yes (If yes, list which conditions apply to your project): 2012 USEPA 401 WQC

I am applying for Tribal Certification ☐ Yes

* In New Mexico, notification is required to the NM Environment Department prior to conducting activities in intermittent and perennial waters and special aquatic sites.

Box 13 Section 401 Water Quality Certification (Texas):

I have read and will comply with the nationwide best management practices for water quality certifications. (http://www.swg.usace.army.mil/reg/)

☐ Yes (If yes, list which best management practices apply to your project):

Box 14 List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type of Approval[4]	Identification Number	Date Applied	Date Approved	Date Denied

[4] Would include but is not restricted to zoning, building, and flood plain permits

Box 15 Nationwide Permit Regional Conditions:

I have read the Nationwide Permit **Regional Conditions** for the state in which work is being completed.

☒ Yes (If yes, list which conditions apply to your project): 2012 USEPA 401 WQC

☐ No (If no, please visit (http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits.aspx)

Nationwide Permit General Conditions (GC) checklist:

(http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf)

Check	General Condition	Rationale for compliance with General Condition
x	1. Navigation	Not applicable to this project
x	2. Aquatic Life Movements	Not applicable to this project
x	3. Spawning Areas	Not applicable to this project
x	4. Migratory Bird Breeding Areas	Project will be in compliance
x	5. Shellfish Beds	Not applicable to this project
x	6. Suitable Material	Only locally harvested fill dirt and bentonite will be required
x	7. Water Supply Intakes	Not applicable to this project
x	8. Adverse Effects from Impoundments	Not applicable to this project
x	9. Management of Water Flows	Flows within Blanco Wash will not be blocked or restricted.
x	10. Fills Within 100-Year Floodplains	Will comply with applicable FEMA-approved State or local floodplain requirements.
x	11. Equipment	Equipment operating within OHWM will do so only during low flow period to reduce erosion.
x	12. Soil Erosion and Sediment Controls	Use of BMPs and areas will be re-seeded
x	13. Removal of Temporary Fills	Not applicable to this project
x	14. Proper Maintenance	Site will continue to be monitored by COPC
x	15. Single and Complete Project	Project is single and complete
x	16. Wild and Scenic Rivers	Not applicable to this project
x	17. Tribal Rights	401 WQC issued by EPA, project will have no effect on Navajo rights.
x	18. Endangered Species	See Box 11 above.
x	19. Migratory Bird and Bald and Golden Eagle Permits	See Section 6 of cover letter
x	20. Historic Properties	See Box 12 above.
x	21. Discovery of Previously Unknown Remains and Artifacts	See Section 7 of cover letter
x	22. Designated Critical Resource Waters	Not applicable to this project
x	23. Mitigation	See Box 10 above.
x	24. Safety of Impoundment Structures	Not applicable to this project
x	25. Water Quality	See Box 13 above.
x	26. Coastal Zone Management	See Box 14 above.
x	27. Regional and Case-by-Case Conditions	See "Nationwide Permit Compliance" Section of cover letter
x	28. Use of Multiple Nationwide Permits	Not applicable to this project
x	29. Transfer of Nationwide Permit Verifications	Not applicable to this project
x	30. Compliance Certification	Will be submitted upon project completion
x	31. Pre-Construction Notification	See "Contents of Pre-Construction Notification" section of this letter

Appendix B
Waste Summary Report

Appendix C
Groundwater Laboratory Analytical Reports

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 01, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60222265001	**GW-074935-062316-SP-MW-1**	Water	06/23/16 10:00	06/27/16 08:30
60222265002	**GW-074935-062316-SP-DUP**	Water	06/23/16 10:00	06/27/16 08:30
60222265003	**TRIP BLANK**	Water	06/23/16 08:00	06/27/16 08:30

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(913)599-5665

SAMPLE ANALYTE COUNT

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60222265001	**GW-074935-062316-SP-MW-1**	EPA 5030B/8260	PGH	8
60222265002	**GW-074935-062316-SP-DUP**	EPA 5030B/8260	PGH	8
60222265003	**TRIP BLANK**	EPA 5030B/8260	PGH	8

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: GHD Services_COP NM
Date: July 01, 2016

General Information:
3 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/76687

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/76721

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/76747

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 60222265001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1786039)
  - Ethylbenzene
- MSD (Lab ID: 1786040)
  - Ethylbenzene

R1: RPD value was outside control limits.

- MSD (Lab ID: 1786040)
  - Ethylbenzene

Pace Analytical Services, Inc.
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(913)599-5665

PROJECT NARRATIVE

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Method: **EPA 5030B/8260**
Description: 8260 MSV
Client: GHD Services_COP NM
Date: July 01, 2016

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Sample: GW-074935-062316-SP-MW-1 **Lab ID: 60222265001** Collected: 06/23/16 10:00 Received: 06/27/16 08:30 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	**2.6**	ug/L	1.0	1		06/30/16 14:59	71-43-2	
Ethylbenzene	**52.1**	ug/L	1.0	1		06/30/16 14:59	100-41-4	M1,R1
Toluene	**2.0**	ug/L	1.0	1		06/30/16 14:59	108-88-3	
Xylene (Total)	**215**	ug/L	3.0	1		06/30/16 14:59	1330-20-7	MS,RS
Surrogates								
4-Bromofluorobenzene (S)	103	%	77-130	1		06/30/16 14:59	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	81-127	1		06/30/16 14:59	17060-07-0	
Toluene-d8 (S)	99	%	80-120	1		06/30/16 14:59	2037-26-5	
Preservation pH	**2.0**		0.10	1		06/30/16 14:59		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Sample: GW-074935-062316-SP-DUP **Lab ID: 60222265002** Collected: 06/23/16 10:00 Received: 06/27/16 08:30 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		06/29/16 17:30	71-43-2	
Ethylbenzene	**22.0**	ug/L	1.0	1		06/29/16 17:30	100-41-4	
Toluene	ND	ug/L	1.0	1		06/29/16 17:30	108-88-3	
Xylene (Total)	**94.8**	ug/L	3.0	1		06/29/16 17:30	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104	%	77-130	1		06/29/16 17:30	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		06/29/16 17:30	17060-07-0	
Toluene-d8 (S)	110	%	80-120	1		06/29/16 17:30	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/29/16 17:30		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Sample: TRIP BLANK **Lab ID: 60222265003** Collected: 06/23/16 08:00 Received: 06/27/16 08:30 Matrix: Water

Comments: • Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Benzene	ND	ug/L	1.0	1		06/28/16 22:02	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/28/16 22:02	100-41-4	
Toluene	ND	ug/L	1.0	1		06/28/16 22:02	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/28/16 22:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	77-130	1		06/28/16 22:02	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-127	1		06/28/16 22:02	17060-07-0	
Toluene-d8 (S)	102	%	80-120	1		06/28/16 22:02	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/28/16 22:02		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

QC Batch: MSV/76687
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60222265003

METHOD BLANK: 1784320
Matrix: Water
Associated Lab Samples: 60222265003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/28/16 21:33	
Ethylbenzene	ug/L	ND	1.0	06/28/16 21:33	
Toluene	ug/L	ND	1.0	06/28/16 21:33	
Xylene (Total)	ug/L	ND	3.0	06/28/16 21:33	
1,2-Dichloroethane-d4 (S)	%	102	81-127	06/28/16 21:33	
4-Bromofluorobenzene (S)	%	101	77-130	06/28/16 21:33	
Toluene-d8 (S)	%	103	80-120	06/28/16 21:33	

LABORATORY CONTROL SAMPLE: 1784321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.1	96	79-116	
Ethylbenzene	ug/L	20	19.0	95	80-120	
Toluene	ug/L	20	18.3	91	80-120	
Xylene (Total)	ug/L	60	58.6	98	80-120	
1,2-Dichloroethane-d4 (S)	%			100	81-127	
4-Bromofluorobenzene (S)	%			95	77-130	
Toluene-d8 (S)	%			97	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

QC Batch: MSV/76721
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60222265002

METHOD BLANK: 1785221 Matrix: Water
Associated Lab Samples: 60222265002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/29/16 15:34	
Ethylbenzene	ug/L	ND	1.0	06/29/16 15:34	
Toluene	ug/L	ND	1.0	06/29/16 15:34	
Xylene (Total)	ug/L	ND	3.0	06/29/16 15:34	
1,2-Dichloroethane-d4 (S)	%	105	81-127	06/29/16 15:34	
4-Bromofluorobenzene (S)	%	103	77-130	06/29/16 15:34	
Toluene-d8 (S)	%	109	80-120	06/29/16 15:34	

LABORATORY CONTROL SAMPLE: 1785222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.8	89	79-116	
Ethylbenzene	ug/L	20	19.9	100	80-120	
Toluene	ug/L	20	19.6	98	80-120	
Xylene (Total)	ug/L	60	60.8	101	80-120	
1,2-Dichloroethane-d4 (S)	%			103	81-127	
4-Bromofluorobenzene (S)	%			100	77-130	
Toluene-d8 (S)	%			109	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

QC Batch: MSV/76747
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60222265001

METHOD BLANK: 1786037 Matrix: Water
Associated Lab Samples: 60222265001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/30/16 12:34	
Ethylbenzene	ug/L	ND	1.0	06/30/16 12:34	
Toluene	ug/L	ND	1.0	06/30/16 12:34	
Xylene (Total)	ug/L	ND	3.0	06/30/16 12:34	
1,2-Dichloroethane-d4 (S)	%	100	81-127	06/30/16 12:34	
4-Bromofluorobenzene (S)	%	101	77-130	06/30/16 12:34	
Toluene-d8 (S)	%	100	80-120	06/30/16 12:34	

LABORATORY CONTROL SAMPLE: 1786038

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	103	79-116	
Ethylbenzene	ug/L	20	20.1	100	80-120	
Toluene	ug/L	20	20.3	102	80-120	
Xylene (Total)	ug/L	60	59.9	100	80-120	
1,2-Dichloroethane-d4 (S)	%			101	81-127	
4-Bromofluorobenzene (S)	%			100	77-130	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1786039 1786040

Parameter	Units	60222265001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	2.6	20	20	23.1	23.1	103	103	37-151	0	40	
Ethylbenzene	ug/L	52.1	20	20	86.2	51.4	170	-3	29-151	50	45	M1,R1
Toluene	ug/L	2.0	20	20	24.4	22.4	112	102	37-147	8	43	
Xylene (Total)	ug/L	215	60	60	351	198	226	-29	27-156	56	46	MS,RS
1,2-Dichloroethane-d4 (S)	%						103	102	81-127			
4-Bromofluorobenzene (S)	%						102	100	77-130			
Toluene-d8 (S)	%						100	99	80-120			
Preservation pH		2.0			1.0	1.0				0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/76687

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/76721

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 COP CHARLES ET AL NO1
Pace Project No.: 60222265

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60222265001	**GW-074935-062316-SP-MW-1**	EPA 5030B/8260	MSV/76747		
60222265002	**GW-074935-062316-SP-DUP**	EPA 5030B/8260	MSV/76721		
60222265003	**TRIP BLANK**	EPA 5030B/8260	MSV/76687		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60222265

60222265

Client Name: GHD COP

Optional
Proj Due Date:
Proj Name:

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Other ☐ Client ☐

Tracking #: 6703 1644 5901 Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other ☐

Thermometer Used: CF -0.1 T-239 / CF 0.0 T-262 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun. AF
(circle one)

Cooler Temperature: 25.9

Date and initials of person examining contents: SBH 6/27

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1. Out of temp, Ice melted
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	14.
Exceptions: (VOA) Coliform, O&G, WI-DRO (water)	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 6/14/16		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:
Additional labels attached to 5035A vials in the field?	☐Yes ☐No ☒N/A	18.

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: J. Walker Date/Time: 6/27/16 email

Comments/ Resolution: Move forward with analysis

Project Manager Review: [signature] Date: 6/27/16

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 0940	Start:
End: 0945	End:
Temp:	Temp:

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services_COP NM	Report To:	Christine Mathews	Attention:	Angela Bown
Address:	6212 Indian School Rd. NE St2	Copy To:	Jeff Walker	Company Name:	GHD
Albuquerque, NM 87110		Cale Kanack, Angela Bown		Address:	
Email:	christine.mathews@ghd.com	Purchase Order #		Pace Quote:	
Phone:	505-884-0672 Fax:	Project Name:	074935 COP Charles et al No1	Pace Project Manager:	alice.flanagan@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	Standard, Line 23

Regulatory Agency

State / Location: NM

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	60222265
1	GW-074935-062316-SP-MW-1	WT	G	6/23/16	1000				6				X						X		QA/QC included 001
2	GW-074935-062316-SP-DUP			6/23/16					3				X						X		002
3																					003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

(1) DRH (6) (3) DRH (3) (5) DRH TO

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steven Perez / GHD	6/23/16	1525		6/27	0830	25.9	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steven Perez

SIGNATURE of SAMPLER: Steve Perez DATE Signed: 6/23/16

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

September 27, 2016

Christine Mathews
GHD Services, Inc.
6212 Indian School Rd. NE St2
Albuquerque, NM 87110

RE: Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on September 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,
Jeffrey Walker, GHD Services, Inc

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60227663001	**GW-074935-091216-CM-MW-1R**	Water	09/12/16 12:25	09/14/16 08:50
60227663002	**GW-074935-091216-CM-DUP**	Water	09/12/16 00:00	09/14/16 08:50
60227663003	**TB-074935-091216-CM-001**	Water	09/13/16 14:15	09/14/16 08:50

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60227663001	**GW-074935-091216-CM-MW-1R**	EPA 8260	EAG, JTK	8
60227663002	**GW-074935-091216-CM-DUP**	EPA 8260	EAG, JTK	8
60227663003	**TB-074935-091216-CM-001**	EPA 8260	EAG	8

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PROJECT NARRATIVE

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: September 27, 2016

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 447129

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 447303

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 447787

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Sample: GW-074935-091216-CM-MW-1R **Lab ID: 60227663001** Collected: 09/12/16 12:25 Received: 09/14/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/21/16 07:44	71-43-2	
Ethylbenzene	**191**	ug/L	1.0	1		09/21/16 07:44	100-41-4	
Toluene	ND	ug/L	1.0	1		09/21/16 07:44	108-88-3	
Xylene (Total)	**518**	ug/L	15.0	5		09/23/16 20:18	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	80-120	1		09/21/16 07:44	2037-26-5	
4-Bromofluorobenzene (S)	105	%	77-130	1		09/21/16 07:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-127	1		09/21/16 07:44	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/21/16 07:44		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Sample: GW-074935-091216-CM-DUP **Lab ID: 60227663002** Collected: 09/12/16 00:00 Received: 09/14/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/21/16 07:59	71-43-2	
Ethylbenzene	**188**	ug/L	1.0	1		09/21/16 07:59	100-41-4	
Toluene	ND	ug/L	1.0	1		09/21/16 07:59	108-88-3	
Xylene (Total)	**497**	ug/L	15.0	5		09/23/16 20:32	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		09/21/16 07:59	2037-26-5	
4-Bromofluorobenzene (S)	104	%	77-130	1		09/21/16 07:59	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	81-127	1		09/21/16 07:59	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/21/16 07:59		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Sample: TB-074935-091216-CM-001 **Lab ID: 60227663003** Collected: 09/13/16 14:15 Received: 09/14/16 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/21/16 07:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/21/16 07:14	100-41-4	
Toluene	ND	ug/L	1.0	1		09/21/16 07:14	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/21/16 07:14	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		09/21/16 07:14	2037-26-5	
4-Bromofluorobenzene (S)	106	%	77-130	1		09/21/16 07:14	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-127	1		09/21/16 07:14	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/21/16 07:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

QC Batch: 447129 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227663001, 60227663002

METHOD BLANK: 1828945 Matrix: Water
Associated Lab Samples: 60227663001, 60227663002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/21/16 06:00	
Ethylbenzene	ug/L	ND	1.0	09/21/16 06:00	
Toluene	ug/L	ND	1.0	09/21/16 06:00	
1,2-Dichloroethane-d4 (S)	%	98	81-127	09/21/16 06:00	
4-Bromofluorobenzene (S)	%	106	77-130	09/21/16 06:00	
Toluene-d8 (S)	%	99	80-120	09/21/16 06:00	

LABORATORY CONTROL SAMPLE: 1828946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	103	79-116	
Ethylbenzene	ug/L	20	19.5	97	81-110	
Toluene	ug/L	20	19.3	96	82-111	
1,2-Dichloroethane-d4 (S)	%			98	81-127	
4-Bromofluorobenzene (S)	%			102	77-130	
Toluene-d8 (S)	%			99	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

QC Batch: 447303 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227663003

METHOD BLANK: 1829731 Matrix: Water
Associated Lab Samples: 60227663003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/21/16 07:00	
Ethylbenzene	ug/L	ND	1.0	09/21/16 07:00	
Toluene	ug/L	ND	1.0	09/21/16 07:00	
Xylene (Total)	ug/L	ND	3.0	09/21/16 07:00	
1,2-Dichloroethane-d4 (S)	%	102	81-127	09/21/16 07:00	
4-Bromofluorobenzene (S)	%	105	77-130	09/21/16 07:00	
Toluene-d8 (S)	%	99	80-120	09/21/16 07:00	

LABORATORY CONTROL SAMPLE: 1829732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.8	89	79-116	
Ethylbenzene	ug/L	20	18.1	91	81-110	
Toluene	ug/L	20	17.3	87	82-111	
Xylene (Total)	ug/L	60	52.2	87	80-111	
1,2-Dichloroethane-d4 (S)	%			104	81-127	
4-Bromofluorobenzene (S)	%			104	77-130	
Toluene-d8 (S)	%			99	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

QC Batch: 447787 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60227663001, 60227663002

METHOD BLANK: 1831824 Matrix: Water
Associated Lab Samples: 60227663001, 60227663002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Xylene (Total)	ug/L	ND	3.0	09/23/16 18:53	
1,2-Dichloroethane-d4 (S)	%	98	81-127	09/23/16 18:53	
4-Bromofluorobenzene (S)	%	102	77-130	09/23/16 18:53	
Toluene-d8 (S)	%	99	80-120	09/23/16 18:53	

LABORATORY CONTROL SAMPLE: 1831825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	58.5	97	80-111	
1,2-Dichloroethane-d4 (S)	%			98	81-127	
4-Bromofluorobenzene (S)	%			101	77-130	
Toluene-d8 (S)	%			101	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 447129

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 447303

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 447787

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 COP Charles et al No 1
Pace Project No.: 60227663

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60227663001	**GW-074935-091216-CM-MW-1R**	EPA 8260	447129		
60227663001	**GW-074935-091216-CM-MW-1R**	EPA 8260	447787		
60227663002	**GW-074935-091216-CM-DUP**	EPA 8260	447129		
60227663002	**GW-074935-091216-CM-DUP**	EPA 8260	447787		
60227663003	**TB-074935-091216-CM-001**	EPA 8260	447303		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60227663

60227663

Client Name: GHD GP NM

Courier: FedEx ☒ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7044 6652 8026 Pace Shipping Label Used? Yes ☒ No ☐ N/A

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: (CF +1.1 T-266) / CF -0.1 T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 3.2 **Corr. Factor** CF +1.1 CF -0.1 **Corrected** 4.3

Date and initials of person examining contents: JDS 1525

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: water	☐Yes ☐No ☑N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☑Yes ☐No ☐N/A	
Cyanide water sample checks: ☑N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present:	☑Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Alice Date: 09/15/16

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 1520	Start:
End: 1525	End:
Temp:	Temp:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GHD Services_COP NM	Report To:	Christine Mathews	Attention:	
Address:	6212 Indian School Rd. NE St2	Copy To:	Jeff Walker, Cale Kanack, Angela Bown	Company Name:	
	Albuquerque, NM 87110			Address:	
Email:	christine.mathews@ghd.com	Purchase Order #:	34008897	Pace Quote:	
Phone:	505-884-0672 Fax	Project Name:	074935 COP Charles et al No1	Pace Project Manager:	alice.spiller@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	8644 , 25

Regulatory Agency
State / Location
NM

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 8260 BTEX	Residual Chlorine (Y/N)	6022 7663
1	GW-074935-091216-CM-MW-1R	WT	G			9/12/16	1225		3				3						X		3(0.9+) 001
2	GW-074935-091216-CM-DUP	WT	G			9/12/16	—		3				3						X		002
3	TB-074935-091216-CM-001	WT				9/13/16	1415		3				3						X		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Christine Mathews/GHD	9/13/16	1430		9/14/16	850	4.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Christine Mathews

SIGNATURE of SAMPLER: Christine Mathews DATE Signed: 9/13/16

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

December 15, 2016

Jeffrey Walker
GHD Services, Inc
6121 Indian School Rd NE
Ste 200
Albuquerque, NM 87110

RE: Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Dear Jeffrey Walker:
Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Spiller

Alice Spiller
alice.spiller@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, GHD Services, Inc,

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 15-016-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021
Kansas Field Laboratory Accreditation: # E-92587
Missouri Certification: 10070

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60233338001	**GW-074935-112816-CN-MW1R**	Water	11/28/16 14:10	12/01/16 08:55
60233338002	**TRIP BLANK**	Water	11/28/16 14:10	12/01/16 08:55

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SAMPLE ANALYTE COUNT

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60233338001	**GW-074935-112816-CN-MW1R**	EPA 8260	EAG, PGH	8
60233338002	**TRIP BLANK**	EPA 8260	PGH	8

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PROJECT NARRATIVE

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: GHD Services_COP NM
Date: December 15, 2016

General Information:
2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 458300

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 458558

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Sample: GW-074935-112816-CN-MW1R **Lab ID: 60233338001** Collected: 11/28/16 14:10 Received: 12/01/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**28.0**	ug/L	5.0	5		12/10/16 00:12	71-43-2	
Ethylbenzene	**901**	ug/L	5.0	5		12/10/16 00:12	100-41-4	
Toluene	**8.4**	ug/L	5.0	5		12/10/16 00:12	108-88-3	
Xylene (Total)	**4390**	ug/L	60.0	20		12/12/16 11:31	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	80-120	5		12/10/16 00:12	2037-26-5	
4-Bromofluorobenzene (S)	94	%	77-130	5		12/10/16 00:12	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	81-127	5		12/10/16 00:12	17060-07-0	
Preservation pH	**1.0**		1.0	5		12/10/16 00:12		

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ANALYTICAL RESULTS

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Sample: TRIP BLANK **Lab ID: 60233338002** Collected: 11/28/16 14:10 Received: 12/01/16 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/09/16 21:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/09/16 21:06	100-41-4	
Toluene	ND	ug/L	1.0	1		12/09/16 21:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/09/16 21:06	1330-20-7	
Surrogates								
Toluene-d8 (S)	102	%	80-120	1		12/09/16 21:06	2037-26-5	
4-Bromofluorobenzene (S)	98	%	77-130	1		12/09/16 21:06	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	81-127	1		12/09/16 21:06	17060-07-0	
Preservation pH	**1.0**		1.0	1		12/09/16 21:06		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

QC Batch: 458300 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60233338001, 60233338002

METHOD BLANK: 1876455 Matrix: Water
Associated Lab Samples: 60233338001, 60233338002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/09/16 20:38	
Ethylbenzene	ug/L	ND	1.0	12/09/16 20:38	
Toluene	ug/L	ND	1.0	12/09/16 20:38	
Xylene (Total)	ug/L	ND	3.0	12/09/16 20:38	
1,2-Dichloroethane-d4 (S)	%	98	81-127	12/09/16 20:38	
4-Bromofluorobenzene (S)	%	99	77-130	12/09/16 20:38	
Toluene-d8 (S)	%	103	80-120	12/09/16 20:38	

LABORATORY CONTROL SAMPLE: 1876456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	79-116	
Ethylbenzene	ug/L	20	19.6	98	81-110	
Toluene	ug/L	20	20.0	100	82-111	
Xylene (Total)	ug/L	60	58.7	98	80-111	
1,2-Dichloroethane-d4 (S)	%			101	81-127	
4-Bromofluorobenzene (S)	%			101	77-130	
Toluene-d8 (S)	%			102	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

QC Batch: 458558 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60233338001

METHOD BLANK: 1877363 Matrix: Water
Associated Lab Samples: 60233338001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Xylene (Total)	ug/L	ND	3.0	12/12/16 10:43	
1,2-Dichloroethane-d4 (S)	%	99	81-127	12/12/16 10:43	
4-Bromofluorobenzene (S)	%	98	77-130	12/12/16 10:43	
Toluene-d8 (S)	%	103	80-120	12/12/16 10:43	

LABORATORY CONTROL SAMPLE: 1877364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	58.4	97	80-111	
1,2-Dichloroethane-d4 (S)	%			98	81-127	
4-Bromofluorobenzene (S)	%			94	77-130	
Toluene-d8 (S)	%			103	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 458300

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 458558

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 074935 COP Charles at al No1
Pace Project No.: 60233338

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60233338001	**GW-074935-112816-CN-MW1R**	EPA 8260	458300		
60233338001	**GW-074935-112816-CN-MW1R**	EPA 8260	458558		
60233338002	**TRIP BLANK**	EPA 8260	458300		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60233338

60233338

Client Name: GHD

Courier: FedEx ☑ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: 7044 6656 7562 Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☐

Thermometer Used: (CF +0.7 / CF -0.5) T-266 / T-239 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 3.5 **Corr. Factor** (CF +0.7 / CF -0.5) **Corrected** 4.2

Date and initials of person examining contents: pvr 12/1/16

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No ☑N/A	
Cyanide water sample checks: ☑ N/A Lead acetate strip turns dark? (Record only) Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No ☐Yes ☐No	
Trip Blank present: 101016-3	☑Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Alice Date: 12/01/16

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 1120	Start:
End: 1123	End:
Temp:	Temp:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GHD Services_COP NM	Report To: ~~Christine Mathews~~	Attention:
Address: 6212 Indian School Rd. NE St2	Copy To: Jeff Walker, ~~Gale Kanack~~, Angela Bown	Company Name:
Albuquerque, NM 87110		Address:
Email: ~~christine.mathews@ghd.com~~ Jeff.walker	Purchase Order #: 34008897	Pace Quote:
Phone: 505-884-0672 Fax:	Project Name: 074935 COP Charles et al No1	Pace Project Manager: alice.spiller@pacelabs.com,
Requested Due Date:	Project #: 074935	Pace Profile #: 8644 , 25

Regulatory Agency	State / Location
	NM

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

A Ambient

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	8260 BTEX	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)
1	GW-074935-112816-CN-MW1R	DW	G	11/28/16	1410	—	—	A	3		HN		X						X		3D691H 001
2																					3D691H TB 002
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	J Walker/GHD	11/30/16	1022		12/1/16	0855	4-2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jeff Walker for CN

SIGNATURE of SAMPLER: J Walker DATE Signed: 11/30/16

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)